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# BUTANE-PROPANE

HEADQUARTERS FOR LP-GAS  
INFORMATION SINCE 1931

*News*

## AN EXCLUSIVE DESIGN . . .



Cylinder Valve with relief and P.O.L. shown—  
10 other combinations—  
One For Every Need!

### Technology

### THE NEW RONEY CYLINDER VALVE

gives you

- Simplicity in Construction
- Flexibility in Application
- Ease in Installation

For Complete Line of Butane-Propane Equipment  
**LOOK TO RONEY**

# L. C. RONEY INC.

511 S. REDONDO BLVD.  
INGLEWOOD, CALIF.

MARCH, 1947

**READY FOR YOU..**  
*another great*  
**Hackney feature!**



You know the features that have made Hackney Cylinders preferred in the industry! Minimum seam area . . . X-ray controlled welding . . . attractive appearance . . . perfect balance between light weight and adequate strength!

And now this great cylinder is even better. It incorporates a new foot ring—better ventilated—assuring lower maintenance costs. An inward curve at the top portion eliminates hard-to-clean crevice and permits thorough inspection. This foot ring is stronger, more resistant to corrosion because all points of contact between it and the cylinder are completely welded.

This feature, like Hackney's other preference-winning advantages, results from Pressed Steel Tank Company's intimate knowledge of the industry. Close contact with users is maintained to assure you a line of L-P Gas Cylinders specifically designed to meet your needs.

## **Pressed Steel Tank Company**

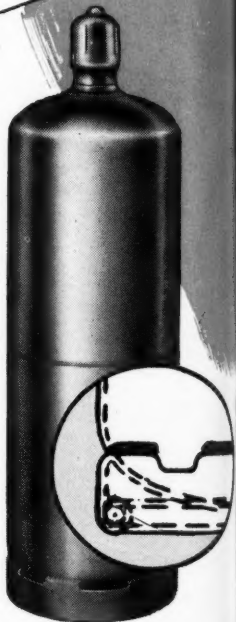
*Manufacturers of Hackney Products*

Main Office and Plant: 1487 South 66th Street, Milwaukee 14

1399 Vanderbilt Concourse Bldg., New York 17 • 227 Hanna Bldg., Cleveland 15

208 S. La Salle St., Room 2069, Chicago 4

552 Roosevelt Bldg., Los Angeles 14



**CONTAINERS FOR GASES, LIQUIDS AND SOLIDS**

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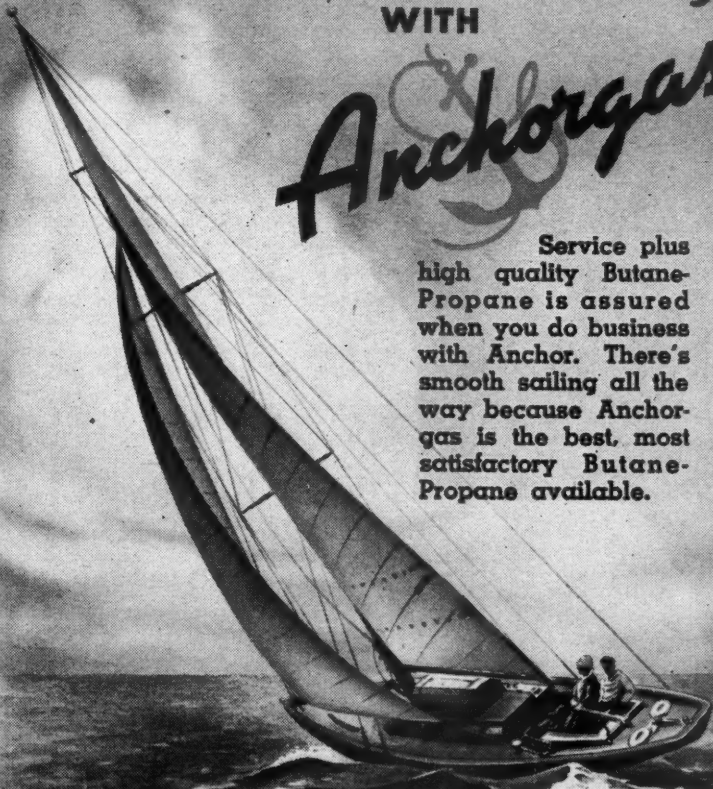
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# smooth sailing

WITH

*Anchorgas*

Service plus high quality Butane-Propane is assured when you do business with Anchor. There's smooth sailing all the way because Anchorgas is the best, most satisfactory Butane-Propane available.



A GOOD NAME  
TO REMEMBER

**ANCHOR**  
PETROLEUM COMPANY  
TULSA, OKLAHOMA

MARCH — 1947

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# BUTANE-PROPANE News

Reg. U.S. Pat. Off.

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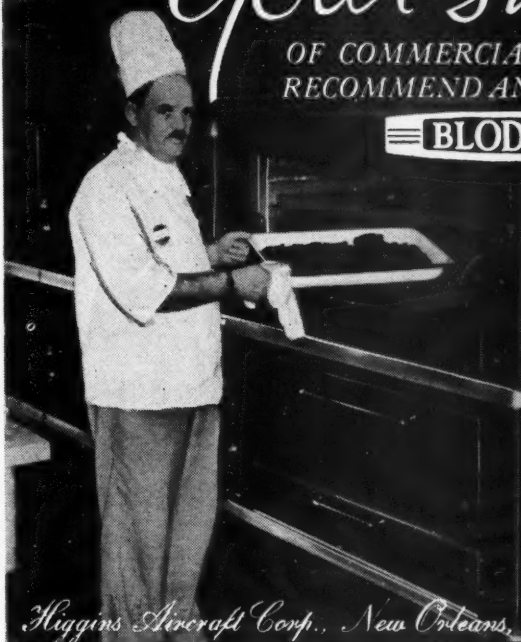
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TO GET *Your Share*  
OF COMMERCIAL COOKING,  
RECOMMEND AND INSTALL

**BLODGETT**



*Higgins Aircraft Corp., New Orleans, La.*

MORE THAN 200,000 public feeding operations of all classes are "off-the-mains" and their average gas consumption is equivalent to 20 domestic installations! • Blodgett Baking and Roasting Ovens are designed to get and hold that business for you, in the smallest places or the largest. There are twenty-two models, designed to fit every need, backed by comprehensive consumer advertising and publicity—plus literature designed to help you recommend and sell.

Send for that literature now!



**THE G. S. BLODGETT CO., INC.**

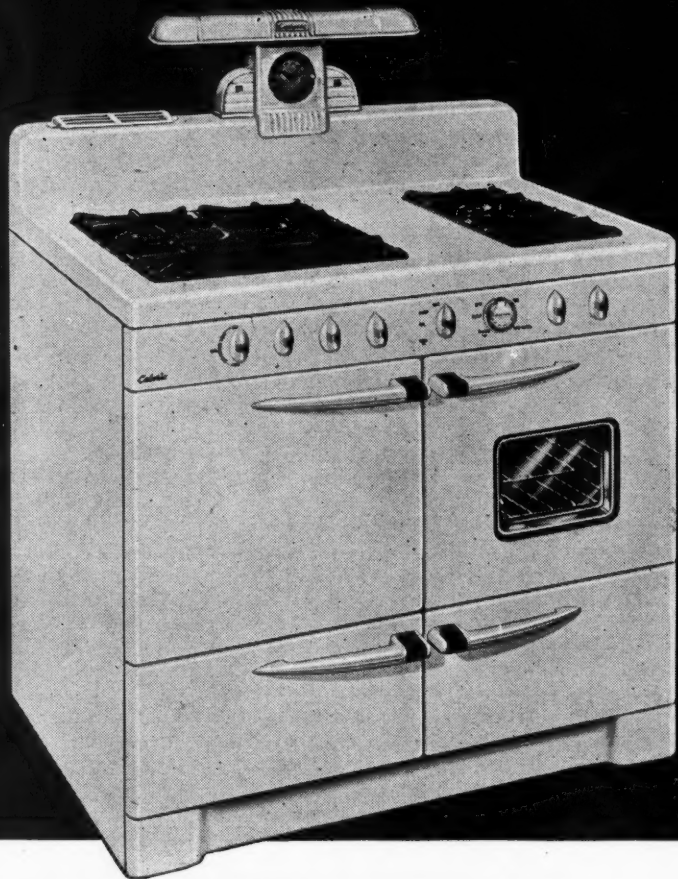
50 LAKESIDE AVENUE, BURLINGTON, VERMONT

**BLODGETT**

—Makers of Fine Ovens Since 1818

One Commercial  
Cooking Job  
Equals  
20 Domestic  
Cooking Jobs!

# Ultramatic CALORIC...



## The Only L.P. Gas Range With All These Selling Features

**Flavor-Saver Dual Burners**—guaranteed for life. Burners and Valves specially engineered for L.P. Gas.

**Patented Veri-Clean Broiler.** Waist-high. Completely removable for cleaning.

**Patented Soft-Action Oven Door Spring.** Built for lifetime service.

**Hold-Heat Oven Seal** for even oven temperature and a cooler kitchen.

**Seamless, Sealed-in, One-piece, Flanged, Porcelain Oven.**

**One-Piece, Porcelain, Front Frame Construction.** Sanitary and Rigid.

Automatic oven ignition, oven timer, oven light—Six and Four Burner Divided Top—Fluorescent light, electric clock and outlet—All porcelain finish. **America's Easiest Range to Keep Clean.**

**The L.P. Gas Range with**

*All the features that Sell*

The new Ultramatic *Caloric* L.P. Gas Range has the smartness and beauty women want . . . all the speed and convenience features customers look for in the L.P. Gas Range they buy . . . and the unequalled performance that makes users recommend *Caloric* to all their friends.

All year long, *Caloric's* large scale national advertising is selling your customers. Each month more than 27,000,000 home appliance purchasers read about the advantages of Ultramatic cooking with *Caloric* gas ranges.

Ultramatic *Caloric* L.P. Gas Ranges will be in volume production early in 1947. So if you sell fine ranges, write:

*Caloric Stove Corporation, Widener Bldg., Philadelphia 7, Pa.*

**This Month and Every Month 27,000,000 Potential Customers  
Read About the Ultramatic CALORIC in**

LADIES' HOME JOURNAL

AMERICAN HOME

BETTER HOMES & GARDENS

GOOD HOUSEKEEPING

WOMAN'S HOME COMPANION

McCALL'S

SMALL HOMES GUIDE

**L.P. Gas Range Advertising**

COUNTRY GENTLEMAN

SUCCESSFUL FARMING

FARM JOURNAL

HOUSEHOLD

PROGRESSIVE FARMER

**A Complete Dealer Merchandising and Promotional Program  
Backs-Up CALORIC's Continuous Nation-Wide Advertising**

***Caloric***

REG. U. S. PAT. OFF.

**THE L.P. GAS RANGE YOUR CUSTOMERS WANT**

# We're dramatizing the modernity of

*Journal of  
Home Economics*

*what's new*

## New 1947 Servel stores a bushel of frozen foods

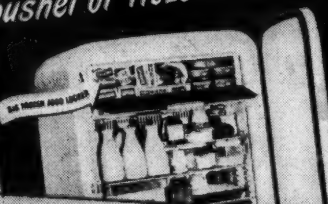
**Famous Gas Refrigerator stays silent—lasts longer**

Home economists know that the best refrigerator investment is the one that keeps the ice in the longest and longest—plus the best, most efficient operating system. And there are both in the new 1947 Servel Gas Refrigerator.

It gives the modern refrigerator owner ample opportunity to be the first to enjoy the benefits of frozen foods.

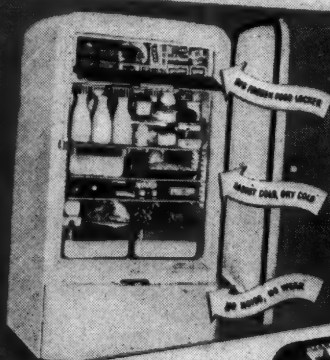


Get frozen food locked



## Home economists applaud the famous Servel Gas Refrigerator for 1947

New models introduced at American Gas Association Convention in Atlantic City with approval of homemaking leaders



"Ideal for homes", "with our new Servel Gas Refrigerator" . . .

Today's finest refrigerator value—"A typical example of home economists' choice of the new 1947 Servel."

It is the standard-size package of home food for every man, woman and child. It has the most modern, efficient, and quietest of systems in the world, and it is the most modern, efficient, and quietest of systems in the world.

It is the standard-size package of home food for every man, woman and child. It has the most modern, efficient, and quietest of systems in the world, and it is the most modern, efficient, and quietest of systems in the world.

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SERVEL HOMEMAKER'S INSTITUTE



*New*  
PREPARED FOR THE USE  
BY THE SERVEL HOMEMAKER

November 1946

*See You Color-6*



*Newsletter*

Prepared by Kitchen Planning Committee of Servel Homemaker's Institute, Encinitas, Cal.

DECEMBER, 1946

**HIGHWAYS in the KITCHEN**



**More women plan to buy *Magic Chef*  
than any other Gas Range . . .**

**and when Mr. and Mrs.  
America step out to buy . . .**

**MEET THEM ON THE HIGHWAYS  
AND IN YOUR LOCAL NEWSPAPER.**

(This 4-color, 24-sheet, imprinted with your name, is free.) You will like the way we've stressed the dealer angle of these newspaper ads.



**MEET THEM IN YOUR SHOW WINDOW.**

A perfect show piece for your window is this fluorescent sign alongside a Magic Chef. When tube is lighted, the red, yellow and white messages stand out against a rich blue background. It's a permanent, prestige-building unit.



**MEET THEM INSIDE YOUR STORE.  
...WITH THIS PLASTIC FULL-ROUND  
MAGIC CHEF.**

28" high, lifelike in color and form, this cherubic Chef points with a red stick to a sales message on an 8½" x 11" card which fits in his left hand. Three cards come with the figure and each has a message which suits your retail needs. A free display card service will keep this unit up-to-date.



For details on these and dozens of other sales helps — contact your Magic Chef Sales Representative, American Stove Company, New York; Philadelphia; San Francisco; Chicago; Cleveland; Atlanta; St. Louis.



# A GOOD NAME IS WITHOUT PRICE

This is absolutely true in the LP-Gas industry where so much depends on the engineering and manufacturing integrity of those engaged in the production of the precision and control devices necessary to efficient economical and safe service. These were the major considerations that prompted our affiliation with

## THE BASTIAN-BLESSING COMPANY

and the adoption of RegO LP-Gas Equipment as standard in the manufacture of Bulk Storage, Transport and Truck Tanks, and SOUTHERN GAS SYSTEMS, as well as the fittings we recommend and sell to the trade.

## LEADER IN ITS FIELD

When founded, thirty-nine years ago, this company occupied but 24,000 square feet of floor space. Now it operates two large modern factories with a total area of approximately 10 acres, and is recognized as the world's largest manufacturer of regulating equipment for LP-Gas. So faithfully has The BASTIAN-BLESSING Company lived up to its slogan: "Pioneer and Leader in the Design and Manufacture of Control Equipment for High Pressure Gases"—that, today, it has an enviable world-wide reputation for quality products.

Likewise, this company has always "preached" SAFETY to the industry. Proof that it practices what it preaches came recently in the form of the award of a Certificate of Safety Achievement by the U.S. Department of Labor.

## WE SALUTE

this Company, its record of achievement, its trained corps of engineers, its officers and operatives from top to bottom.

# SOUTHERN GAS

Atco Bldg. Tulsa, Okla.  
Phone 4-2448



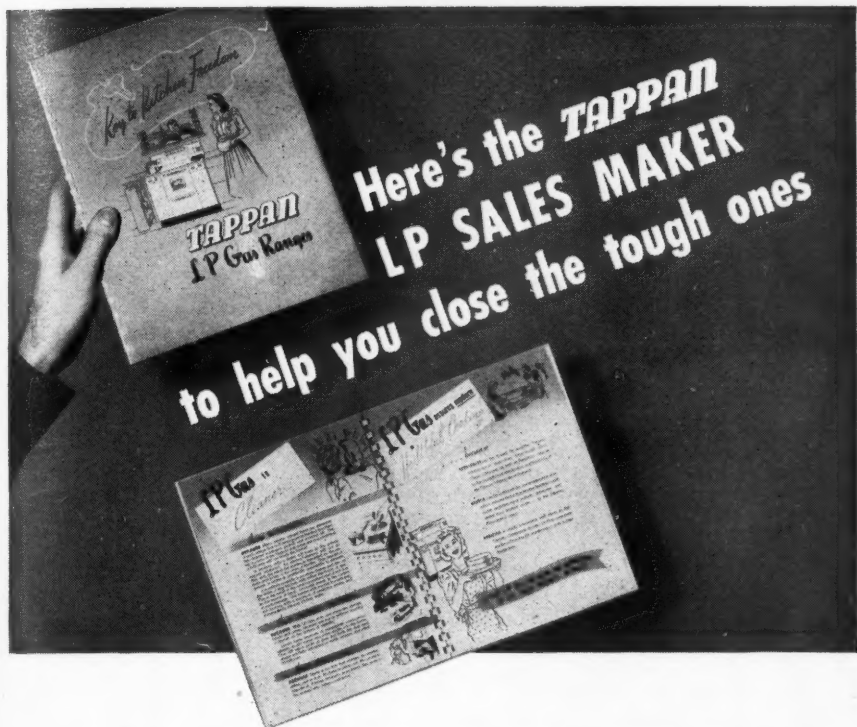
# & EQUIPMENT CO.

Branches: Sapulpa and  
Enid, Okla., Atlanta, Ga.

SOUTHERN GAS & EQUIPMENT CO. OF TEXAS — HOUSTON



1. Aerial View of the Chicago Factory
2. Special Lathe for Machining Bodies of RegO Regulators
3. Battery of Hand Screw Machines Making Precision Parts
4. Final Test and Inspection of Cylinder Valves



Here's a brand new selling tool to help you sell LP Service and Tappan LP Gas Ranges. It's the only one of its kind in your whole LP field.

This Tappan LP Sales Maker gives good, practical reasons why—first, gas for cooking is superior to electricity, kerosene, coal, or wood. Then it proves conclusively that Tappan is the gas range offering more conveniences, more satisfac-

tion to the user than any other range.

It is just another one of the many helpful Tappan services to make your Tappan franchise mean more sales, more profits to you. Its provable facts will help you close the tough ones, too.

So Tappan dealers—if you're not using this Sales Maker write now for a copy for yourself and each of your salesmen. Let it go to work for you.

THE **TAPPAN** STOVE COMPANY • MANSFIELD, OHIO

FOR 66 YEARS, MAKERS OF FINE RANGES

MARCH — 1947

27

# DEEP SEA FRYERS

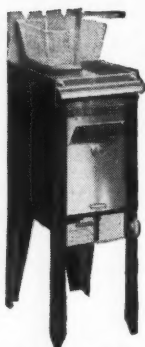
*have made me a  
lot of friends*

—Dick Keating

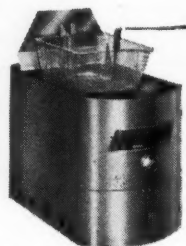


PERFECTLY FRIED FOODS  
FRIED FASTER AND  
MORE ECONOMICALLY

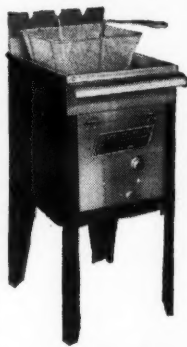
COMPLETE LINE to meet each  
individual need best. Prompt  
delivery.



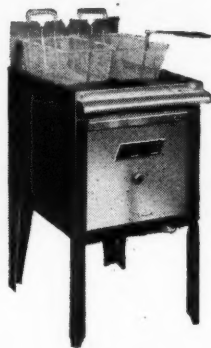
10" x 11" Model



10" x 11" Counter Model

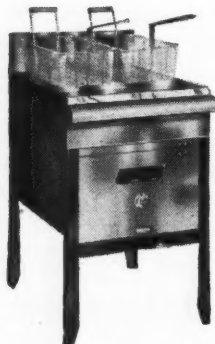


14" Square

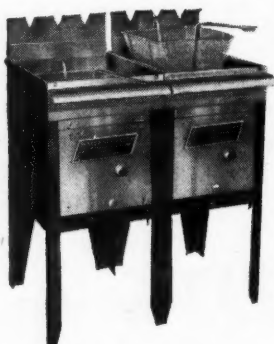


18" Square

**SPECIALITIES APPLIANCE CORP. 343-A E. Ohio St., Chicago 11, Ill.**



20" x 20" Heavy Duty



14" Square Twin



10" x 11" Twin

# LETTERS

Gentlemen:

I would like very much to get some information regarding a conversion of a wood range to use butane or propane. The range that is to be converted is a No. 6 Montague hotel range; it is a 2-oven range with a right hand fire. The elevation at which the range is to be used is about 5000 feet.

S.I.S.

California

It is possible to convert either oil or wood burning French ranges to operate on liquefied petroleum gas but usually the fuel economy is poor.

In most instances the purchase of a new commercial range is justified in fuel savings, alone, plus the other various benefits which accrue.—Ed.

Gentlemen:

Would you please tell us where to get information on reading gas meters?

We have some cubic foot, some gallon, and some decatherm meters.

We have reason to believe that some of the answers we get are not correct.

F.S.

Colorado

I suggest that you apply to the manufacturers of the meters you use and they will furnish you with illustrated instructions for reading them.—Ed.

Gentlemen:

I am just going into the LP-Gas business and have quite an opportunity with a canning factory. They have seven factories throughout the state and are desirous of using LP-Gas for their boilers and all other uses around the plants. The boilers are of large size, approximately 350 hp.

Our intention is to haul our gas

out of Southern Illinois and buy in such quantities so that we will receive the lowest possible rate per gallon. At each of the factories we are planning on having a bulk plant for domestic bottling, etc., using the same storage tank for all operations.

What do you think of the setup? Do you believe that gas will compete for the factory with fuel oil at about 7 cents per gallon? Cost of propane about 6 cents per gallon delivered.

In the summer time they have one plant using gas at 35c per mcf. natural gas.

W.W.M.

Indiana

Propane at 6c should easily compete with fuel oil at 7c due to the ease of control of gas fired equipment. Also with gas available it can be utilized in other parts of their process if desired.

The over-all fuel cost for the large boilers should be about the same, as you will eliminate the need of steam for atomizing the oil or the cost of electricity for operating a pressure type burner.

You will not be able to compete with natural gas at 35c per thousand.

Care should be taken in your measurements if you are going to use the same tank to serve yourself and a customer.—Ed.

Gentlemen:

In several of our recent installations, we have been confronted by a situation that is not at all pleasant, either to us or our customers.

We have been troubled with sweating and to such a degree, that window frames mildewed, and plaster walls cracked. We have tried over-ventilation and various heater adjustments to no avail.

The temperature has ranged very close to 35° and we have had some

excessive rainfall. We would appreciate any information you might be able to give us.

G.A.

Georgia

Unvented gas heaters of any kind will increase the humidity of the air as natural and L.P.-Gas burn to carbon dioxide and water vapor. With temperatures as low as 35° you will have condensation on windows and exposed areas.

The answer, therefore, is to arrange to vent the heaters, if possible.—Ed.

Gentlemen:

I would like to ask you one question. What is the ultimate CO<sub>2</sub> of undiluted propane vapor burned in a gas designed propane house heating furnace of 100,000 Btu input? Perhaps I should make it clearer, what would you recommend as a good combustion test of a furnace as mentioned above, on CO<sub>2</sub>, O<sub>2</sub>, stack temperature?

Getting back to the first question, what is the theoretical CO<sub>2</sub> of propane, also butane?

A.D.P.

Minnesota

On Page 35 of the "Handbook Butane-Propane Gases" there is a chart showing the percentage of CO<sub>2</sub> and excess air in the products of combustion of propane and the heat left in the flue products, and on Page 36 the same is given for butane.

The ultimate in CO<sub>2</sub> in flue products for propane is 13.7% and for butane 14%.

No more excess air should be used than necessary to prevent the formation of carbon monoxide.—Ed.

Gentlemen:

We are at last getting started in the propane distributing business and are sorely in need of advertising matter.

I am taking the privilege of writing you, feeling that if you do not have this service for sale you could direct me to the proper parties to contact. I am new in this business and would like to get the best advice possible in instigating an advertising

campaign and will appreciate it very much if you will give me the benefit of your knowledge along this line.

R.W.W.

Tennessee

We do not have any material of this nature. The Lawrence H. Selz Organization, 221 No. La Salle St., Chicago, publicity agent for the Liquefied Petroleum Gas Association, has a great deal of publicity and advertising material which is available to members of the Association. That would be your best source for your present needs. Address your letter to the attention of Budd Mulloy.—Ed.

Gentlemen:

I am converting my car to butane and wondered where I can get a list showing where I can buy butane. Can you tell me where to get such information?

B.F.A.

California

I am sorry to say that at the present time there is not available a directory of automotive filling stations.

Generally speaking, you would be able to obtain butane for automotive purposes at filling stations along any of the principal truck routes in the West. The fuel is used primarily for trucks and that is why you will find it on the highways traveled by them.

Whenever you buy fuel at one station, always ask where the next one is located in the direction in which you are traveling. In that you will be able to always maintain a supply in your tank.—Ed.

Gentlemen:

Some of our customers are now interested in the so-called "hot plate" appliance for use on board their sailing and motor boats, and a few units have been delivered.

Before making further deliveries of propane cooking appliances for use on board pleasure craft we would like to hear your opinion.

We are delivering commercial propane and this gas is heavier than air. Should therefore a leakage occur, the propane vapors would flow into the bottom of the boat's hull under the



cabin floor and could under unfortunate circumstances cause an explosion.

We consider the danger to be greater on board sailing yachts because they are generally very deep and have but poor (if any) ventilation.

On board motor boats there is always more ventilation through the speed, the turning of the fly-wheel and the suction of air through the carburetor.

Even in case there is not any leakage, there will always be the hazard of some vapor flowing into the bilge because it is not possible to prevent some gas escape until the burner is ignited, but in this case there could, after our opinion, hardly be sufficient vapor to cause explosion.

Please give us your comments regarding this question.

D.S.

Sweden

Propane is used extensively here for cooking on pleasure boats.

The hazard of using propane in our opinion is much less than the use of gasoline or oil stoves on board boats.

There is no hazard involved in lighting the burner as the amount of gas that escapes before ignition is so small that no trouble will ensue.

As a matter of good practice, we believe the propane cylinders and regulator should be enclosed in a ventilated cabinet above deck and the only piping then going below would be low pressure.

When the boats are only used on the weekends, it is good practice to turn off the cylinder valves before leaving the boat.

Another use for propane has been favored for small boats here. In the winter when they are not being used often, dampness tends to spoil furnishings and finish. Many boatmen install small portable propane heaters and once or twice a month go aboard and thoroughly dry out the interior of the cabins.—Ed.

Gentlemen:

I have a 500-gallon propane tank and buy gas from a dealer and meter it out to four customers. At the end of the first month there seems to be a difference of 103 gallons.

Would the tank which was filled July 15 and not used until Oct. 25 lose much through expansion?

Meters are 50', 75', 80' and 100' from the tank.

R.A.T.

Missouri

There is no loss from expansion unless your safety valves have been opened.

It is entirely possible that you have small leaks in your piping system or around the tank fittings. It does not take long for small leaks to amount to large gallonage losses.

Check your connections for leaks. If this does not locate your trouble, have the meter calibrated for the gas you are using.—Ed.

Gentlemen:

Please advise where we can secure red shipping tags for propane cylinders.

A.H.&B.Co.

Nebraska

There is a firm in Los Angeles which makes these for a local distributor. I am enclosing a sample. These tags come equipped with a 12-inch wire for attaching to the cylinder. They are made by the Eastman Tag & Label Co., 411 Wall St.—Ed.

Gentlemen:

Please send all information you can on a practical dehydrator for alfalfa and other hay crops that will burn a butane-propane mixture.

We have a customer who is very interested in obtaining something to dehydrate his hay crops and do away with the silo.

F.C.

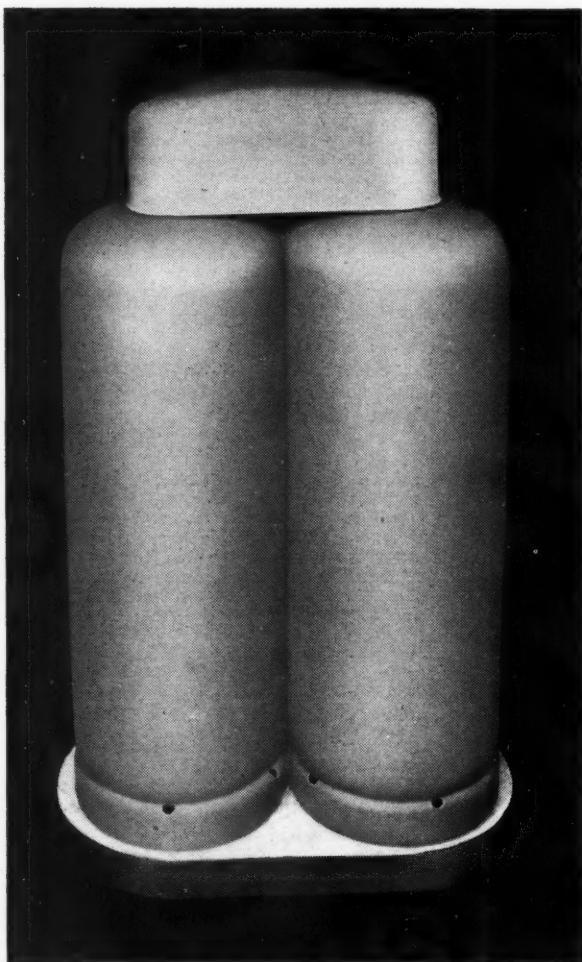
Texas

Enclosed herewith is a set of tear sheets of a recent article in BUTANE-PROPANE News describing alfalfa drying. I think this will answer your customer's needs.

The J. B. Beaird Co., Inc., Shreveport, La., manufactures dehydration equipment for many classes of operations, including alfalfa.—Ed.

● BUTANE-PROPANE News welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed.—Editor.

**NOW . . . AN ALUMINUM HOUSING — QUICK DELIVERY**



THE  
**NEW D-1**

AVAILABLE IN  
BOTH POST AND  
WALL-BRACKET  
MODELS:



THE D-1-P  
(complete with post and  
base form)



The  
D-1-B  
(wall bracket model)

The finest wall-mounted housing on the market. The price is very low. Has all the features you are looking for in housing equipment. Remember it is all aluminum and will not rust. Shipping wt. 6 lbs.

Write today for catalog  
and price list



**STAMPINGS INC., Davenport, Iowa**

**BUTANE-PROPANE News**

# COMMENT

**D**ECENTRALIZATION of industry is not a vague, future theory. It is taking place. Both large and small concerned are already on the move—getting away from the congestion of big centers where there is inadequate space and where high rents prevail. They are moving to small towns and the country.

This is going to mean more to LP-Gas men than most dealers realize. Factories always need power and heat. LP-Gas is made to order for them. See that every new plant moving into your territory hears what gas can do. Throw your whole sales manual at them!

The Oklahoma Liquefied Petroleum Gas Association held a special meeting on Feb. 20 to discuss ways and means of installing large storage tanks on customers' premises so as to greatly lessen winter fuel shortages such as occurred this winter.

Kansas dealers have already started a similar campaign through their state organization, and the sooner the whole industry awakens to this wide need the better it will be for all concerned.

The long-expected Revised NBFU Pamphlet No. 58 has been released. An outline of important changes, compared to the old code, is presented on Page 108.

Dr. Clarence Dorman, referred to in this issue in an article on flame weeding, died Feb. 8 of a heart attack. He was director of the Delta, Miss., Experiment Station.

A highly sensitive infra-red gas analyzer designed at Johns Hopkins University during the war can detect one part of carbon monoxide or carbon dioxide in 50,000 parts of air, according to a report now on sale by the Office of Technical Services, Department of Commerce.

Illinois dealers met Jan. 15 to form a state association. Other state groups plan to do likewise.

It is a good move and should bear good fruit.

Industry conditions differ from state to state. Dealers within state lines can derive benefit from local associations.

However, there are numerous problems of national scope which affect dealers everywhere. That's why state associations may well align themselves with a national association.

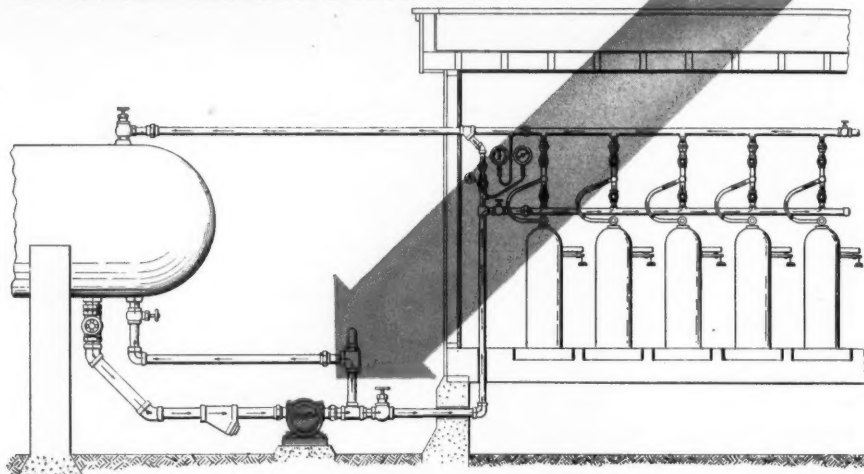
Do you make conversions?

A burner port chart and orifice table for LP-Gas ranges appear in this issue (Page 39). You'll not find handier tools for gaining accuracy and saving time.

Getting extra capital to expand your business, financing stocks of appliances and equipment and relieving yourself of carrying customer accounts seem easy after reading what Ernest Jensen says banks will do for the LP-Gas industry. Read about it in this issue.

By Ed.

## SMITH PRECISION Butane-Propane PUMPS FOR PROFITABLE OPERATION OF BOTTLING PLANTS



It is important that the initial equipment cost for a bottling plant be kept within reasonable limits, and also that the installation be such that the operator may accomplish the everyday filling job with a minimum expenditure of time and effort. Smith Precision Pumps fulfill these requirements well, as is proved by their extensive use for this service throughout the industry.

In the above illustrated bottling plant layout a double manifold is provided. The lower one distributes the high pressure fluid to the cylinders on the scale platform while the upper manifold is connected through the vapor return line back to the storage tank.

This arrangement has several useful features, for example, should a bottle be found overweight after closing the lower valve, the upper valve may be opened to permit ready discharge of any overage. The higher pressure due to vapor compression in a newly filled bottle makes this possible.

When a cylinder comes up slowly, due to unusual heating or due to the inclusion of non-condensable gas, closing of the lower valve and opening of the upper valve causes a rapid reduction of temperature and pressure in the cylinder, after which filling may be resumed.

The valve (A), conveniently placed within easy reach of the operator, provides for fast manual pressure adjustment or reduction in such emergencies as several containers "topping off" simultaneously.

Write for full particulars on this and other installation practices as well as the latest Smith Precision Pump catalog.

### TRUCK PUMPS—for power take-off drive

Model T-1044: 20 GPM at 500 RPM shaft speed

Model T-2: 50 GPM at 500 RPM shaft speed

Model T-3: 100 GPM at 500 RPM shaft speed

### Direct Electric Motor Driven Pumps

M-1044: 20 GPM at 1800 RPM

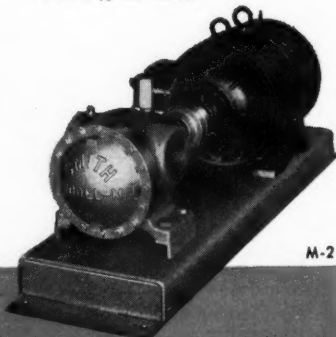
1½ HP motor

M-2: 50 GPM at 1800 RPM

3 or 5 HP motor

M-3: 100 GPM at 1800 RPM

5 or 7½ HP motor



M-2

# SMITH

PRECISION PRODUCTS COMPANY

1135 MISSION STREET • SOUTH PASADENA • CALIFORNIA • PHONE PYRAMID 12293

# BEYOND THE MAINS

By ELLIOTT TAYLOR



## What Cheer!

**H**ERE lately we have been accused of overplaying our part a little, in the role of croaking raven, Jeremiah, carping critic and stormy petrel of the liquefied gas industry, and it was brought to our attention that a good way to observe a little Christian forbearance and restraint during the Lenten season would be for us to say a good word about everything and everybody in at least one editorial.

Always on the alert for anything that may enhance our position or increase our following among the dues-paying subscribers, we are not at all averse to digging around for the scraps of good news that are to be found and making up a composition based on the premise that everything is fine and dandy and very soon it is going to get a lot better, or is it?

What is the biggest headache the dealers have to suffer today? Some may say the shortage of equipment, particularly cylinders; others will say the shortage of fuel—that is fuel on hand in the bulk plants when and as needed; but all will agree on one thing, more appliances have to appear on the market before the butane-propane in-

dustry can do anything more than make a slight dent in the mountain of unfilled demand that looms in front of it.

So taking worst things first, we are pleased to offer as good news item No. 1, the statement released from Gas Appliance Manufacturers Association headquarters to the effect that "if the materials situation eases by midyear," the 1947 production of gas ranges will exceed the 1946 output of 1,600,000 units produced—and where they ever got to we'll never be able to tell you, although we did get a Roper out of it.

The biggest year the gas range business ever had was 1941 when the stove builders turned out 2,225,000 gas units. The plant capacity to make ranges has been increased during the war but the supply of enameled sheets and castings is still very





short, and those who know the market say it will stay that way for another six months, anyhow.

That's for stoves. The water heater folks have done better. In 1946, GAMA says, the manufacturers of automatic water heaters produced over a million and a quarter units. That is 50% greater than the biggest year they ever had before the war, when they made 800,000 heaters, and it puts the 1936-1940 average clear in the shade, since in those years the turn-out was only 425,000 automatic heaters per year.

Speaking of water heaters, a development for the gas dealer to follow closely, and get in on where he can, is found in the new popularity of the home laundry machines and the automatic dishwashers that are appearing on the market. A speaker at a recent sales conference sponsored by the American Gas Association made the statement that as deliveries of this new automatic equipment began to catch up with orders, 10% of all the existing automatic water heaters now in use will become obsolete and require replacing by larger units with greater deliverability of high temperature water.

Well there is a lot in the home laundry prospect, and its promise of a marked increase in gas consumption, but if we get sidetracked on that story our good

news editorial will never cover all of the points that we have in mind.

What else is going on that calls for a word of good cheer? The gas supply situation has probably passed its most critical period and from here on out should show a gradual improvement. When we say critical we mean critical, too. The wonder is that so few consumers actually suffered or were subject to anything worse than the passing irritation of being without fuel for more than a few hours. Never was such an inadequate transportation fleet stretched out and speeded up and rerouted as were the tank cars and the trucks carrying propane and butane from refiners and producers to the bulk storage tanks of distributors and dealers.

Now the Liquefied Petroleum Gas Association advises us that the Rubber Reserve administrators have turned back 125 of their cars to LP-Gas service; and tank car fabricators delivered 78 propane cars in January with 121 more scheduled for February production. That "scheduled for production" you can always take with a grain of salt, however. They will produce what they can get the steel to produce, and no more. We expected February to be the worst month as far as gas supplies were concerned and that's what it turned out to be. Now

February is behind us, and we are of the opinion that the worst of the winter's gas supply problems are behind us.

Cylinders coming due for test January 15 had many operators worried, and a number have inquired where they could get testing equipment, or to whom they could ship cylinders to have them tested in compliance with the law. The ICC hasn't gotten around to extending the testing period from five to ten years, as we predicted it would. But it has extended the time on cylinders due for retest Jan. 15, 1947, to June 15 of this year.

That gives five more months of grace, and in that time the ICC will undoubtedly issue an order raising the length of time between compulsory cylinder testings from five to ten years. Since no one has yet reported an ICC propane cylinder failing because of deterioration due to age, it may be that in 1952 the ten year period will be extended to twenty years. But we specialize only on short term prophecy and that would come under the heading of long range trends about which we know little or nothing.

While we are on cylinders we would like to square away and guarantee to one and all that there would be plenty of them available in 1947. This we can't do, and the reason, of course,

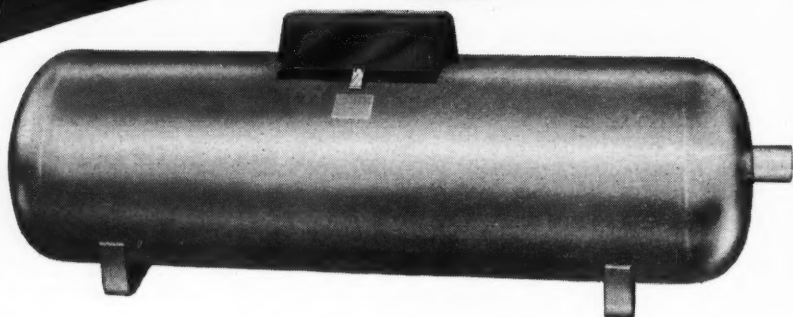
is that there is no certainty of an adequate steel supply; in fact the present indications are far from reassuring. However, the scuttlebut rumors are to the effect that there will be three new companies starting to produce cylinders in 1947, and if they are going to produce any output at all they must have some idea where the metal is going to come from, even if we don't.

Then we observe, also, that the National Butane-Propane Association is launching a group insurance program for its members, a plan that will enable operators with only a few employees to offer them the benefits of insurance programs comparable to those that are sponsored by the big industrial employers with thousands of employees. Some of the features, according to a recent bulletin, include a full coverage for the risks of health, disability and sickness with hospital and medical services compensated for.

That seems to round out a little package full of good news, or at least with what good news there is available at this particular time. And as far as we can see, we haven't turned the heat on under a single person, practice, plan or promotion that has been discussed.

When better news can be brought, BUTANE-PROPANE News will bring it.

# HANSON RED-TOP PROPANE DOMESTIC TANK



## TOP FITTED ONLY

SIZES		SHIPPING WEIGHT				
50	NET GAL.	.	.	.	.	238
100	" "	.	.	.	.	418
140	" "	.	.	.	.	558
270	" "	.	.	.	.	1097
500	" "	.	.	.	.	1785

## ROY E. HANSON

1924 Compton Ave., Los Angeles 11, California

# Keys to Appliance Changeovers

## Burner Port Chart and Orifice Table

By P. A. RAY

Engineer, United Cities Utilities Co.

*Presented herewith are two valuable tools for servicemen who change over appliances to use a character of gas different from that intended when the appliances were made.*

*While the burner port chart was developed specifically for conversions from manufactured to natural gas, and for raising butane-air town gas systems from 550 Btu to 1300 Btu, it is equally applicable to changing over any gas to straight butane or propane or mixtures of the two.*

*The orifice chart for LP-Gas ranges was compiled by BUTANE-PROPANE NEWS from in-*

*formation furnished by the range manufacturers indicated, and is a logical accompaniment to the burner port chart.*

*If a serviceman were to attempt a conversion in the field on a range not listed, he could determine the proper orifice size from use of the burner port chart in conjunction with a table on Page 198, Third Edition, Handbook BUTANE-PROPANE GASES, entitled, "Flow of LP-Gas Through Standard Orifices," or by referring to Chapter 12 of "The Bottled Gas Manual," entitled "Burner Design and Application."—Editor.*

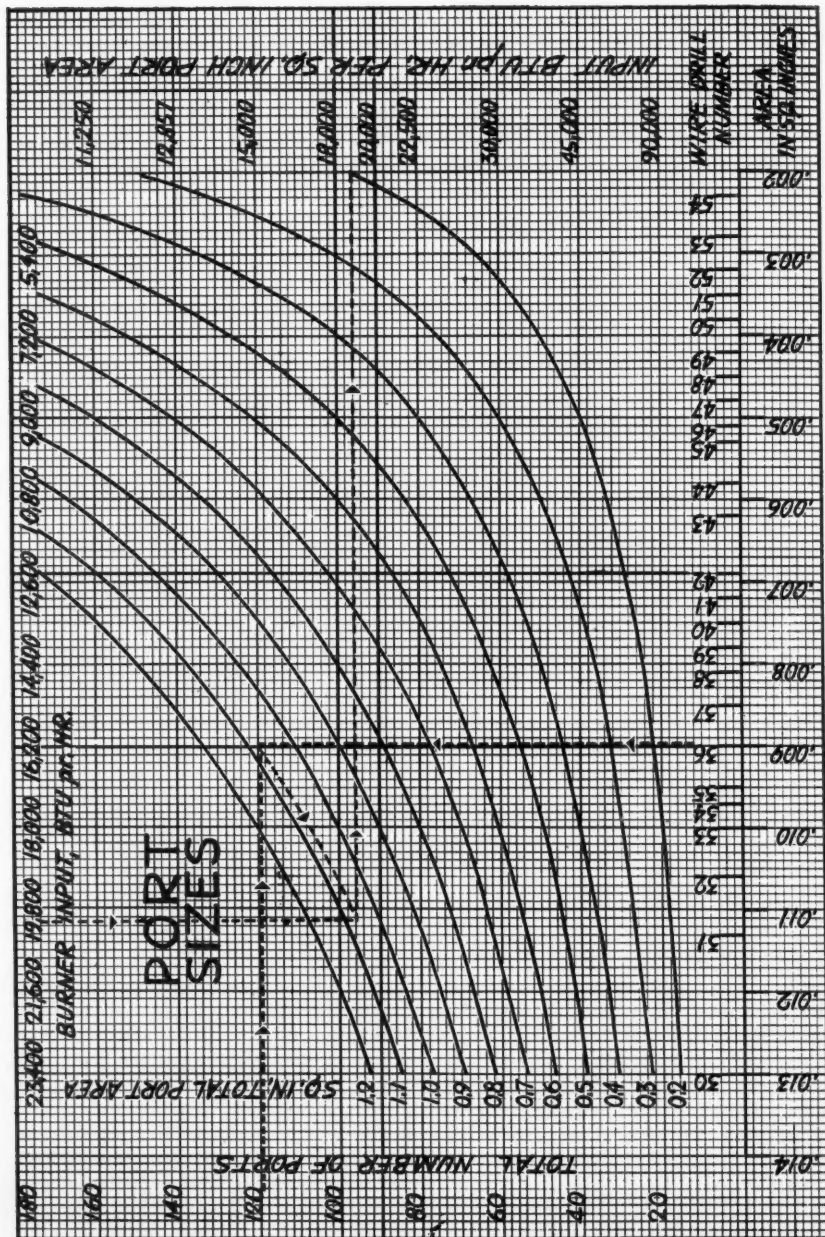
**I**T is frequently necessary to convert a gas burner to utilize a gas other than that for which it was originally designed. Where this change is to a higher heating value gas it is usually necessary to increase the size of the burner ports.

Common practice in the past has been to drill the ports for any one class of burner, such as water heater burners, the same size regardless of the number of ports in-

volved or the designed input rating of the burner.

To actually obtain the best possible operation it is essential to study each burner separately, thereby determining the port requirements for that particular burner with the gas involved.

The mathematics of determining total port area and input per square inch of port area (port loading) are cumbersome and subject to human





error to a great degree. To further determine what corrections are necessary and possible is usually too time-consuming and difficult to be practical in normal field work.

A burner port chart has now been developed that will materially simplify the task of solving these problems. This chart may be used to determine that a given burner will or will not operate satisfactorily with the gas in question. When a change in the ports is required, the chart may be used to correctly determine what changes are required to provide good combustion.

In solving port problems there are usually five factors involved. These are the total number of ports, the size of the ports, the total port area, the rated burner input, and the port loading (input per square inch of port area).

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"There can be no question but what the use of this chart in our changeover has involved some extra effort over and above that usually expended," states Mr. Ray in discussing the burner port chart. "This is offset to some degree by the fact and knowledge that the results obtained have provided better burner operation and fewer call-backs on the appliances changed. We have been able to obtain customer satisfaction in most cases on the first call.

"Previous experience on changeovers to natural gas in which ports were handled as a mass rather than as an individual problem has taught me that post-period complaints require considerable effort to clear. A majority of these complaints are the result of improper ports or the opposite, improper adjustment due to lack of knowledge of port capacities.

"We are now practically through with the changeover work, which started in the middle of June. In my contacts with those towns changed earlier, it has been possible to evaluate the results. In every case, they have been more satisfactory than in any of my previous experiences."

The port chart, in fact, is made up from two charts, or graphs. The first graph combines the factors of port size and the number of ports to determine the total port area.

### Two Graphs in One

The second graph combines rated burner input and allowable port loading for the gas involved to determine necessary total port area. Since each of these graphs have a common factor, total port area, it is possible to combine them to provide a single graph which may be used to readily solve these problems in the field. The well trained utility field or service man can use this chart to rapidly and correctly solve many of his problems.

The base of this chart is tabulated in terms of square inches area of a single port. The range is from two to fourteen thousandths of a square inch. Wire drill sizes No. 30 to 54, inclusive, are also indicated along this line. The left hand side, or the ordinant of the chart is tabulated in terms of total number of ports. The range is from zero to 180 ports.

The graph curves are tabulated in terms of total port area. The range is from 0.2 to 1.2 of a square inch total port area. There are 11 curves in all in steps of one-tenth of a square inch.

To find the total port area of a burner you will determine the drill size of the ports and the total number of ports. Locate at the bottom of the chart the drill size involved and follow the vertical line upward to a point intersected by a horizontal line from the left side for the

number of ports as determined. This point will determine the total port area.

Frequently the intersecting point will fall between two curves rather than directly on any one curve. The total port area in this case is determined by interpolation. Thus, if the point is half way between the 0.4 and 0.5 curves, the total port area would be 0.45 of a square inch.

This portion of the chart may be used for several purposes. If any two of the three factors are known, the third may be found. If we know that a burner requires a total port area of 1 square inch and there are 134 ports we will find that the chart calls for drill size No. 40 port.

The top line of the chart is tabulated in terms of rated burner input, i.e., the Btu input for which the burner is designed or for which it is desired that the burner be constructed. The range is from 3600 Btu per hour in steps of 180 Btu.

The right hand side, or ordinant, of the chart is tabulated in terms of Btu input per square inch of port area, or what is more generally known as port loading. The range is from 11,250 Btu to 90,000 Btu per square inch of port area. It is difficult to differentiate between this factor and that of rated burner input. If we think of rated burner input in terms of distance, or miles traveled, and port loading in terms of speed, or miles per hour, we will understand the difference between these two factors.

The third factor on this second

half of the chart is total port area. The same curves for this factor that are used for the first half of the chart are also used for this second half.

The use of this second portion of the chart is similar to the first portion. If any two factors are known, the third can be determined. Thus, if we find that a burner is rated at 9,000 Btu input and has a total port area of 0.5 of a square inch, the chart will show that the port loading is 18,000 Btu per square inch of port area. As a further example if we know that the port loading for a particular gas should be 15,000 Btu per square inch of port area and the burner in question has a total port area of 0.6 of a square inch, we will find from the chart that the burner may be successfully rated at 9,045 Btu input per hour.

### The Final Step

Having become familiar with the two portions of the chart, the final step is to combine them to provide all of the information necessary to the solution of port problems. In doing this it is often confusing to transfer from one portion to the other. Careful examination will indicate that the position of the point determining the total port area of a burner from the size and number of ports is not the same as the point used for this burner for total port area in determining rated input or port loading.

In transferring from one portion to the other, it is essential to follow the curve to a new point determined by the intersection with a vertical

or horizontal line from the factor being considered. When interpolating between total port area curves it is essential to maintain the relative positions between the curves in transferring from one portion of the chart to another.

The simplest function of this chart is to determine if a given burner will or will not operate properly on the kind of gas available. To set up an example, let it be assumed that a burner has 120 ports sized Drill No. 36, that the rated input is 20,000 Btu, and that the correct port loading for this particular gas is between 18,000 and 20,000 Btu per square inch of port area.

#### Illustration Shows Use

First we will locate the vertical line for drill size No. 36 and the horizontal line for 120 ports. At the intersection of these two lines we will find that the total port area is approximately 1.08 square inches. The vertical line from the top of the chart for 20,000 Btu is then located and the curve followed to an intersection with this line. Drawing a horizontal line from this point to the right hand edge of the graph will show that the port loading is between 18,000 and 20,000 Btu per square inch of port area. As this falls within the limits for this gas we will know that this burner will operate satisfactorily on this gas.

One further function of this chart would be to determine the proper port drilling for a burner on a given gas. Using the same example as before, we might change

the specifications to a port size drill No. 38. We would find that the burner then had a port area of 0.98 of a square inch. Following this curve to the intersecting vertical line for 20,000 Btu rated input and then to the right to the port loading ordinant, we find that this loading is greater than the gas will allow. By working the original example backwards we would determine that the proper drill size for the ports was No. 36.

Occasionally it is necessary to service a burner for which the rated input is unknown. Assuming that the burner is properly designed for the gas in question, it is possible to determine the rated input with this chart. Knowing the number of ports, the size of the ports and the proper port loading for the gas, the correct input for the burner can be easily determined.

#### Determining Number of Ports

Another function of the chart would be to determine the number of ports required for a burner when the size of the port was limited to one drill size. Following the above example, it should be easy to see the method used for the solution of such a problem. It will be found that as you become acquainted with this chart there are many uses for it not covered in these instructions.

You will note on the chart that there are two heavy vertical and two heavy horizontal lines. These are the limiting lines for a particular gas. In this case the gas is a butane-air with a heating value of 1300 Btu per cubic foot. The horizontal lines indicate the limits for

# ORIFICE SIZES FOR LP-GAS DOMESTIC RANGES

	STANDARD TOP BURNER	Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas		GIANT TOP BURNER	Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas
A-B Stoves.....	72	..	..	..	..	..	..			..	..	..	..	..	..
American Stove..... (Magic Chef)	70	70	36	42	54	54			68	68	32	36	51	51	
Anderson Stove.....	71	..	..	..	..	51			70	..	..	..	..	..	51
Andes—No. 105.....	69	..	..	..	..	52			..	..	..	..	..	..	..
Andes Nos. 53-54, 4600, 4800.....	69	..	..	..	..	52			..	..	..	..	..	..	..
Athens (Vesta).....	70	70	..	..	..	45			..	..	..	..	..	..	..
Automatic..... (Royal Rose)	70	71	37	48	51	52			..	..	..	..	..	..	..
Auto (Autocrat) Nos. 41-16, 16-41, 490	70	70	42	42	..	42			..	..	..	..	..	..	..
Borg-Warner..... (Norge)	70	70	36	36	36	36			68	68	36	36	36	36	46
Borg-Warner..... (White Star)	70	70	36	36	36	46			68	68	36	36	36	36	46
Caloric.....	71	72	A	A	A	A			60	69	A	A	A	A	A
Chambers.....	68	68	31	46	..	54			..	..	..	..	..	..	..
Comstock-Castle..... (Economy)	70	70	39	52	52	52			67	67	30	39	39	39	39
Copper-Clad Nos. 41-D-18-B, 4423-C-G..	72	72	..	..	..	52			70	70	..	..	..	..	52
Cribben & Sexton..... (Alltrot)	68	71	31	52	52	52			66	58	68	31	52	52	
Cribben & Sexton..... (Clic-Set)	67	70	31	52	52	52			65	66	31	52	52	52	
Crosley.....	71	71	45A	52A	52A	45A			69	69	39A	49A	49A	45A	
Crown (Harper).....	71	72	36	48	52	..			69	70	36	48	52	..	
Crown (Onica).....	71	70	36	48	52	..			69	68	36	48	52	..	
Detroit-Michigan..... (Onica Thrift)	70	71	28	42	..	48			67	69	28	42	..	48	
Detroit-Michigan..... (Simmer Kook)	72	73	36	45	..	52			69	71	36	45	..	52	
Dixie.....	72	..	..	..	..	..			..	..	..	..	..	..	..
Dwyer (No. 480).....	71	71	..	..	..	42A			69	69	..	..	..	..	42A

# ORIFICE SIZES FOR LP-GAS DOMESTIC RANGES—Continued

STANDARD TOP BURNER							GIANT TOP BURNER						
	Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas		Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas
Estate.....	70	71	36	..	..	48		69	70	36	..	..	48
Florence.....	69	71	35	..	..	46		67	69	35	..	..	42
Floyd-Wells.....	70	71	..	..	..	52		68	69	..	..	..	52
Glenwood.....	70	70	..	..	..	52		68	68	..	..	..	52
Globe-American.....	72	72	33	..	..	52		71	71	33	..	..	40
Graham (Wedgewood)...	68	68	35	48	52	52		64	64	35	48	52	52
Graham (Alltrol).....	69	69	48	48	52	52		67	67	48	48	52	52
Grand.....	70	70	35	..	..	36		69	69	35	35	35	36
Hardwick.....	70	71	31	46	..	39		68	69	31	46	46	39
Kalamazoo.....	70	70	36	36	36	52		68	68	36	..	..	52
Moore (Harper).....	72	73	36	..	..	52		69	71	36	..	..	52
Moore (Onica).....	70	71	36	..	..	52		67	69	36	..	..	52
Odin.....	71	..	38	..	..	40		68	..	38	..	..	40
O'Keefe & Merriitt.....	69	70	44	..	..	52		65	66	40	..	..	52
Roberts & Mander (Quality Standard).....	70	71	30	52	52	52		67	69	30	52	52	52
Roberts & Mander (Quality Simmer).....	72	73	30	52	52	52		69	71	30	52	52	52
Roper.....	70	70	31	..	..	52		68	68	31	..	..	50
Rose.....	70	71	37	48	51	52		..	..	..	..	..	..
Round Oak.....	70	..	..	..	..	..		68	..	..	..	..	..
Slattery.....	71	..	31	..	..	52		..	..	..	..	..	..
Sunray.....	70	70	37A	52A	52A	52A		..	..	..	..	..	..
Tappan.....	70	72	31	..	..	41		68	70	31	..	..	42
Tennessee (Modern Maid).....	70	..	..	..	..	..		..	..	..	..	..	..
Weiskittel Co. (Real Host).....	70	..	..	..	..	..		..	..	..	..	..	..
Welbilt.....	70	70	..	..	..	52		..	..	..	..	..	..

# ORIFICE SIZES FOR LP-GAS DOMESTIC RANGES—Continued

OVEN BURNER	Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas	Natural Gas		BROILER BURNER	Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas
A-B Stoves.....	57	..	..	..	..	..			..	..	..	..	..	..
American Stove (Magic Chef).....	55-54	55-54	22-20	26-22	43-40	43-40			56	56	30	39	51	51
Anderson Stove.....	58	..	..	..	..	36			57	..	..	..	..	36
Andes—No. 105.....	57	..	..	..	..	31			..	..	..	..	..	..
Andes—Nos. 53-54, 4600, 4800.....	55	..	..	..	..	31			56	..	..	..	..	31
Athens (Vesta).....	55	55	..	..	..	30			55	55	..	..	..	30
Automatic (Royal Rose).....	56	57	28	37	44	45			..	..	..	..	..	..
Auto (Autocrat) Nos. 41-16.....	56	56	24	24	24	24			..	..	..	..	..	..
Auto—No. 16-41.....	56	56	36	36	36	36			..	..	..	..	..	..
Auto—No. 490.....	60	60	24	24	24	24			..	..	..	..	..	..
Borg-Warner (Norge).....	55-56	55-55	18	18	18	22			..	..	..	..	..	..
Borg-Warner (White Star).....	22	22	18	18	18	22			56	56	18	18	18	22
Caloric.....	56	56	A	A	A	A			56	56	A	A	A	A
Chambers.....	55	55	20	39	..	46			55	55	20	39	..	46
Comstock-Castle (Economy).....	58	58	30	39	39	39			58	58	30	39	39	39
Copper-Clad No. 41-D-18-B.....	56	56	..	..	..	42			..	..	..	..	..	..
Copper-Clad No. 4423-C-G.....	53	53	..	..	..	42			..	..	..	..	..	..
Cribben & Sexton (Airtrol).....	55	56	20	40	40	40			..	..	..	..	..	..
Cribben & Sexton (Clic-Set).....	55	56	20	40	40	40			..	..	..	..	..	..
Crosley.....	56	56	30A	42A	42A	30A			58	58	30A	46A	46A	30A
Crown (Harper).....	..	55	30	40	45	..			..	56	31	42	45	..
Crown (Onica).....	..	55	30	40	45	..			..	56	31	42	45	..
Detroit-Michigan (Onica Thrift).....	55	56	20	20	..	38			..	..	..	..	..	..
Detroit-Michigan (Simmer Cook).....	55	56	20	20	..	38			..	..	..	..	..	..



# ORIFICE SIZES FOR LP-GAS DOMESTIC RANGES—Continued

	OVEN BURNER							BROILER BURNER					
	Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas		Propane	50-50 Butane- Propane	550 Btu Air-Gas Mix	1000 Btu Air-Gas Mix	1400 Btu Air-Gas Mix	Natural Gas
Dixie .....	58	..	..	..	..	..		..	..	..	..	..	..
Dwyer (No. 480) .....	56	56	..	..	..	32A		59	59	..	..	..	38A
Estate .....	55	55½	16	..	..	32		58	59	16	..	..	32
Florence .....	56-57	57-58	24	..	..	24		56	57	24	..	..	24
Floyd-Wells .....	56	57	..	..	..	31		57	58	..	..	..	31
Glenwood .....	.050"	.050"	..	..	..	42		56	..	..	..	..	42
Globe-American .....	54	54	25	..	..	28		..	..	..	..	..	..
Graham (Wedgewood) ..	56	56	18	32	40	40		..	..	..	..	..	..
Grand .....	56	56	29	29	29	29		57	57	29	29	29	29
Hardwick .....	55½	56	15	31	41	33		55½	56	..	15	41	33
Kalamazoo .....	57	57	25	..	..	38		..	..	36	..	..	38
Moore (Harper) .....	54-55	55-56	24	..	..	31		55-56	56-57	24	..	..	31
Moore (Onica) .....	54-55	55-56	24	..	..	31		..	..	..	..	..	..
Odin .....	55	..	30	..	..	25		58	..	30	..	..	25
O'Keefe & Merritt .....	54	55-56	29-25	..	..	45-43		60	61	34	..	..	44
Roberts & Mander (Quality Standard) .....	55	56	18	42	42	42		55	56	18	42	42	42
Roper .....	55	55	15	..	..	38		55	55	15	..	..	43
Rose .....	56	57	28	37	44	45		..	..	..	..	..	..
Round Oak .....	56	..	..	..	..	..		..	..	..	..	..	..
Slattery .....	56	..	26	..	..	44		..	..	..	..	..	..
Sunray .....	57	58	30A	40A	40A	40A		60	60	32A	43A	43A	43A
Tappan .....	55	56	22	..	..	31		..	..	..	..	..	..
Tennessee (Modern Maid) .....	55½	..	..	..	..	..		..	..	..	..	..	..
Weiskittel Co. (Real Host) .....	56	..	..	..	..	..		..	..	..	..	..	..
Welbilt .....	56	53	..	..	..	40		56	56	..	..	..	40

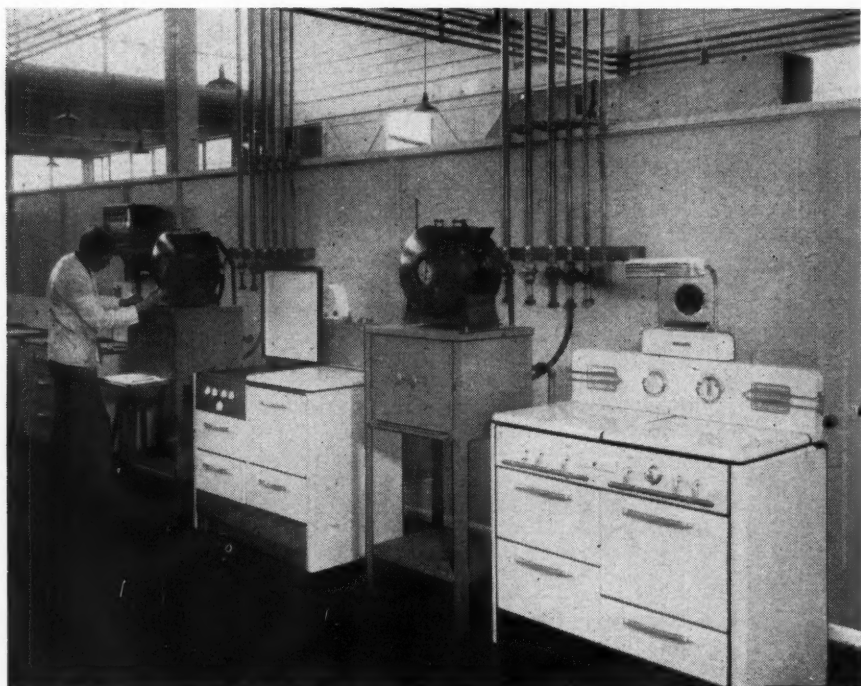
port loading with this gas and the vertical lines the normal limits in drill sizes for this gas. Occasionally port sizes larger or smaller may be used with this gas but in the major number of cases it has been found that staying within these limits will provide the best operation.

The normal limit lines for port sizes for other gases will differ from these lines in accordance with the combustion characteristics of that gas.

In the case of butane-air gas the

limits for port loading are very rigid. To load the ports heavier than the limits invariably results in poor operation. The port loading limits with other gases are not as narrow as for this particular gas.

The manufactured gases have the broadest ranges, with natural gas having a narrower range just slightly greater than the liquefied petroleum gases. In using the port chart, it is most important to know the limits for the particular gas being considered.



The American Gas Association Testing Laboratories inspect gas ranges before approving them for the trade. This is a scene in the domestic gas range section of the Pacific Coast branch of the Laboratories at Los Angeles.

# Ways to Make "Home Service" Pay

By BETTY BROWN

Home Service Director, The Tappan Stove Co., Mansfield, Ohio

IN the September issue of BUTANE-PROPANE *News* we explained the operations of a home service department. Following many requests for additional information, we will endeavor to pass on to you the various steps to be taken (and thoughts to be given) in developing such a department.

One should realize that great gain can be forthcoming from a well-planned and well-administered department, but it is up to the individual (or company) planning such a venture to ascertain the need for such an undertaking.

It is obvious that keen competition has taken hold in the appliance field. Many dealers are jockeying for the No. 1 position in their localities through advertising, and the promotion-minded executives are establishing home service for the convenience of their customers, both old and new. Therefore, in pointing out the need for a department, competition should be the most important factor.

But home service can really pay for itself by helping to educate the war brides in the correct way of using appliances. Statistics show that many young girls, inexperienced in cleaning house or cooking a meal, became "Mrs." during the war. Proper home service guidance will aid them materially in establishing their homes.

A home service department will prove an essential part in the training of a dealer's sales department and can assist in the training of new service men. There are some slants

[Editor's note: The following article regarding the establishment of a home service department supplements the article which appear in the September issue of Butane-Propane *News* entitled, "Range Sales Influenced by Feminine Ideas—In Design—In Demonstration."]

from the woman's point of view that can enhance a sale or give the appliance salesman additional information to pass on to the ultimate consumer.

After the needs have been established, you can start forming a department. First, you have to consider a home service director; second, a modern kitchen; third, an office; and fourth, transportation.

It is preferable, although not necessary, that a home service director be a graduate of home economics. Previous practical experience in this field is a valuable asset in the execution of duties. Depending on the intended field of accomplishment, one or more assistants may or may not be necessary. An assistant, who is a home economist or a housewife, and who has had practical experience in the home, works out very satisfactorily in a great many cases.

Adding the proper environment by having a modern kitchen on the sales floor or in the auditorium makes a setting for demonstrations and appliance displays and can give the housewife an idea how the particularly sought appliance will look in her home.

The home service director should

## Cooking Demonstrations Help Dealer Sales



A model home service department at the Tappan Stove Co. Left: Betty Brown (in uniform) and Evelyn Schindler, secretary at Tappan, checking biscuits with color chart.

have a desk in an office where she can plan work, make reports, correspond with customers and professional people, and have a place to file records and recipes. A telephone should be available for answering customers' requests for recipes and cooking information, appliance inquiries, etc.

Transportation facilities are important. A car may be maintained for this purpose or the director may use her own car or public transportation facilities for making necessary home calls. There is an occasional "rush" case and if the service man isn't around, an urgent response on the part of a member of the home service department may keep a housewife in a friendly frame of mind.

Reselling appliances by contacting the customer after an appliance has been installed and making sure the housewife understands the use and care of that appliance will help to promote goodwill for the dealer. An individual demonstration may be necessary, but if this attention makes a satisfied customer for the dealer and helps to reduce service calls, then you can say that that trip was really necessary.

A home service director may sponsor activities in her town to help promote her company's products.

A radio program could inform housewives of the latest recipes, household hints on cooking, food preparation, etc., and at the same time do a little publicity and advertising about the store's products. Editing a recipe column for the local paper or radio station is always an interesting subject for the housewives who are anxious to find out new ideas.

A director may be available for club appointments, discussing such subject as "Food and Nutrition," and "New Appliances and Equipment for the Kitchen." The store auditorium

or attractive sales floor could be made available during the evening for club meetings at which the home service director could act as hostess for various groups. During the evening time could be allocated for a short demonstration or talk on appliances.

Home service is a vital part of a dealer's operation. Establishment or expansion of a present home service department will promote more goodwill and create more sales. Home service should be on the organization chart of all aggressive dealers.

## Cylinder Retest Time Extended to June 15

Order of the ICC dated June 6, 1946, authorized certain extension of time for the retesting of ICC4B-240 cylinders used for LP-Gases which came due for retest during the period Dec. 7, 1941, to Dec. 31, 1945. In the meantime action has been taken to amend the ICC Regulations to change the period of retest for such cylinders and to provide an alternate method for testing.

By further order of the Commission, dated Jan. 21, 1947, the expiration date of the order of June 6, 1946, has been extended from Jan. 15, 1947, to June 15, 1947.

The ICC is considering a proposal to extend the 5-year test period to 10 years.

## Outgrows Old Quarters

The Arkansas Liquefied Gas Co. has moved to a new building on Main St. in Booneville, with expanded space and facilities.

# Cross-Country



**AT LARGE**—Flame cultivation of row crops, utilizing huge quantities of LP-Gas, is the currently popularized industry load builder.

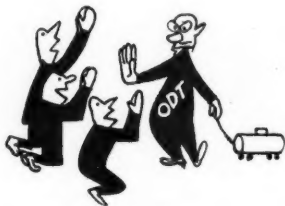
**MINNEAPOLIS**—The National Butane-Propane Association offers members a plan whereby they and their employees can participate in a group accident, life, health, hospital and dismemberment over-all insurance program with an old line insurance company.



**NEW YORK**—The revised NBFU Pamphlet No. 58, code book of the industry, has been released. Many rules are changed.



**CHICAGO**—LPGA sets May 27-29 as dates for its 1947 industry convention and exhibition. The Sherman hotel in Chicago is the spot.



**KINGSTREE, S. C.**—LP-Gas users beg Office of Defense Transportation for one lone tank car of fuel to relieve emergency there.

Nothing doing, says ODT. Cars needed for fertilizer.

**WICHITA, KAN.**—Officials of the Kansas LPGA are starting a campaign for larger storage vessels at points of use. Means lower fuel cost, better service to customers, fewer headaches for dealers.

G. M. McClellan heads up committee for action.



**LINCOLN, NEB.**—A bill will be introduced at the 1947 session of the state legislature to establish regulations for the transportation, storage and handling of LP-Gases, equipment and appliances in Nebraska.



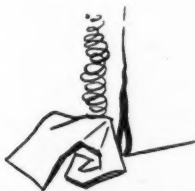
**PORTAGE, WIS.**—Wisconsin dealers elect association officers: V. J. Mueller, Portage, president; Lee Barker, Wisconsin Rapids, vice president; D. L. Pothour, Platts-ville, secretary-treasurer.

**HARRISBURG, PA.**—The 31st Annual Pennsylvania Farm Show, held in Harrisburg, January 13-18, played to such an attendance that visitors could hardly crowd through the aisles. LP-Gases got a big display.



**LOS ANGELES** — Dave Purrington, Southwest Section LPGA, tells dealers if they want to free themselves from the refund procedure of motor vehicle fuel tax law covering sales on domestic fuel, they must have organized movement.

He says, "Join the LPGA and we'll march on Sacramento in a body."



**WASHINGTON, D. C.**—Prevent fires! President Truman has called a national conference on fire prevention to meet in Washington, May 6-8.



**TULSA, OKLA.** — LP-Gas will soon be taken to the high seas. The Warren Petroleum Co. is preparing to convert a 416-foot cargo ship to propane tanker.

# Weed Burning

By L. H. WRIGHT and C. O. HENNEMAN

Chemical Engineering Department, Phillips Petroleum Co.  
Bartlesville, Oklahoma

The term "Flame Weeding" is relatively new in agriculture. It is applied to the process of passing a flame rapidly over the crop plants and weeds in such a manner that the crop plants are not injured substantially while the weeds soon die from injuries caused by the heat of the flame.

The first weed burners produced by Fiejelen Research and Development Co. of Washington, D. C., utilized oil, or kerosene, as a fuel and required an air compressor to obtain the high velocity flame needed for good flaming. They were very complicated, expensive and temperamental.

## In Two Parts—Part I

**I**N 1944, the State of Mississippi, recognizing that the only solution to the problem of an ever-decreasing labor supply on the farm lay in total mechanization of farm operation, appropriated \$30,000 to the Mississippi Experiment Station to study the mechanization of cotton and other crops. Dr. Clarence Dorman, Director, designated the Delta Branch Experiment Station, Stoneville, Mississippi, to conduct these studies.

In 1945, Phillips Petroleum Co., in cooperation with the Delta Experiment Station and Fiejelen Research and Development Co., built one of the first weed burners to be used in flame weeding employing liquefied petroleum gas. The success of this first unit is demonstrated by the fact that almost 100% of the weed burners built in 1946 utilize liquefied petroleum gas. About 2000 units were built and marketed under the direction of the New Holland Machine Co., New Holland, Pa.

## Theory of Flame Weeding

It is commonly known that different varieties of plant life are able to withstand differing maximum and minimum temperatures. Size, age, barklike outer coating, and it is thought, texture (fiber content) are factors which may lead to this varying resistance to temperature. Because of this fact, if a group of different plant vari-

**A Report on Flame Cultivation of Row  
Crops by the Phillips Petroleum Co.**

ties are growing in immediate association with each other, it is possible to apply the amount of heat to the entire group to destroy or impede the growth in those having the least resistance to the high temperatures of flame cultivation without damage to those having the greatest resistance to temperature.

The existence of this fact is utilized by the operator in practicing flame cultivation in the economically important problem of control and the eradication of obnoxious growths in the crop field. Its known accomplishment in the crop row has been made possible in the knowledge that the following factors are mechanically controlled:

a. The duration of plant exposure to flame. This is determined by the speed of the tractor. High speed means a short exposure; low speed means a longer exposure. By varying



C. O. HENNEMAN

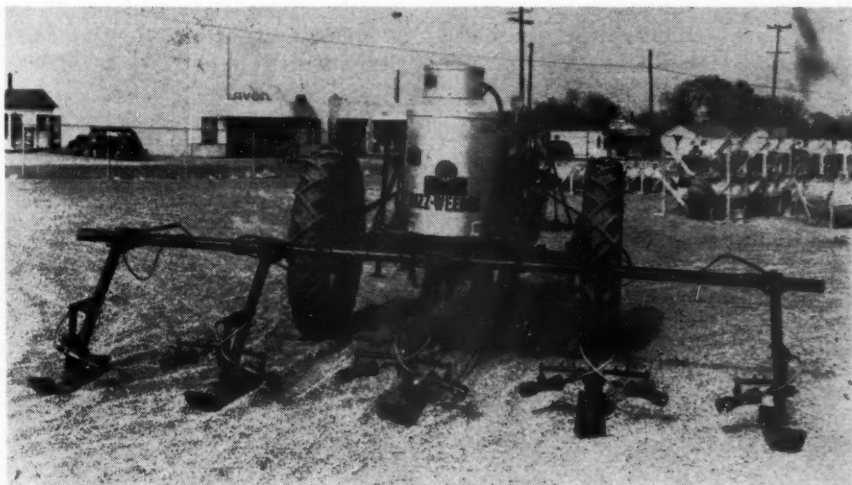


L. H. WRIGHT

the tractor speed, plants may be subjected to any desired exposure.

b. Angles at which flame may be applied. With the knowledge that control of the above factors remain in his hands, an operator practicing flame weeding can readily acquire through his interest, experience and practice a thorough and effective flaming technique.

The process of flame weeding has



The Sizz-Weeder.

as its object the artificial introduction of sufficiently high temperatures to cause a withering effect within the leaf and stem tissue of the obnoxious weeds existing in the crop row. The process is not intended to scorch the weeds necessarily, but to induce in them a temperature sufficient to bring about dehydration or rupture of the cell bodies, with resultant loss of moisture. This creates a condition whereby fermentation and drying out will complete the destruction.

### Flaming Process

The flame weeding process eliminates young weeds and grass in the crop row by the process of burning. Burners are mounted on a frame on a tractor in a staggered pattern so that two burners flame one row, one from each side. The flame is directed toward the base of the plants at about 5° angle with the ground and extends well into the opposite middle. Burners should be set so the flames will not im-

pinge, as fire will then deflect upward into the plants and scorch the leaves.

Flame weeding may be carried out simultaneously with the cultivation of middles on all row crops. Flaming eliminates the need of throwing dirt to cover the weeds around the plant that is being cultivated, thus permitting flat cultivation. Throwing the dirt makes it impossible for the flame to reach the weeds and effect a kill as it passes along the row. Tests show that 4-12 inches of the row should not be disturbed by plowing, but left to flaming alone.

Chopping or thinning of cotton need no longer be a hand operation as devices employing weed burners have been designed for this purpose. Flame chopping should be done when the cotton is from 2-4 inches high, or as soon as it is determined that a stand of cotton is up. The burners should be set opposite each other rather than in the staggered positions recommended for cultivation.

Flame weeded cotton and cane.



The device consists of a wheel (one for each row) on which are mounted open-end metal boxes that protect the cotton to be saved; the remainder, as well as weeds and grasses, are destroyed by flame. During the period between chopping and flame weeding the crop should be handled by normal cultivation practice.

This period is normally from two to three weeks, but flaming should not begin until the crop has reached a height of about 6 inches and a stem diameter of 3/16 inch for cotton.

Flame weeding has been successfully used on cane, corn, soybeans and some truck crops. Many new farming methods are being tested that utilize flame weeding. Pre-flaming the seed bed and also before the row crop comes up have already been proved. Burning of hay stubble immediately after the crop has been removed has done much toward weed control in legume crops.

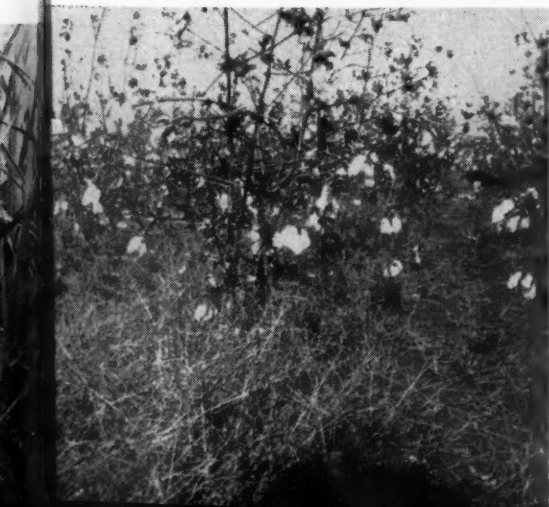
In another type of operation, the first cane and corn sprouts have been burned along with the weeds immediately after coming through the ground. The cane and corn immediately recovered while the weeds were almost completely destroyed. The crop was approximately one week later in reaching maturity than the crop that was not burned. Weeds in the ditches and along the fence rows can be controlled by the proper application of flame.

#### Devices for Use in Weed Burning or for Flame Weeding

There are many devices for use in weed burning or for use in flame weeding being tested in the field to determine the most advantageous design. However, the gas utilization equipment including burners is identical on all units, regardless of whether they are for use in weed burning or for use in flame weeding.

Instruction on the assembly and

Cotton and cane produced by standard plantation practice.



adjustment of the weeder frame and burner bracket will be provided by the implement dealer. However, in the interest of safety, each person should know and respect the gas equipment.

### **The Gas Tank**

The fuel tank may be of either the vertical or horizontal type, having a capacity from 60 to 120 gallons of liquefied petroleum gas. It should be constructed under the ASME code in conformance with NBFU Pamphlet No. 58, inspected by an insurance company, and have Underwriters' Laboratories and/or state inspector's approval. This tank should be a 200 psi. wp. tank to permit the use of propane, butane, or mixtures of propane and butane. The tank should be equipped with the following fittings although they may not all be required to obtain state approval.

#### **a. Quick Filler-Valve.**

This valve contains a small check having a composition seat that is easily opened by the pressure of the liquid coming from the refueling pump. It allows a high fuel transfer rate with a very low pressure differential. When the transfer pump is shut off, this check closes and prevents the loss of the contents of the fuel tank when the filler hose is disconnected.

The cap provided should always be screwed on the valve to prevent dirt and dust from getting into the system. This is extremely important as small particles of dirt and dust will plug the small orifices of the burners and prevent them from operating properly.

#### **b. Vapor Return Valve.**

This valve is similar in construction

to the quick filler valve though usually smaller. Its function is to permit connection of the vapor space at the top of the fuel tank with the vapor space at the top of the storage tank. With the vapor or equalizing hose connected, the valve is held open and vapor will pass from one tank to the other equalizing the pressures.

Thus, as the liquid is transferred to the fuel tank the vapor is allowed to flow back to the storage tank rather than be compressed at the top of the fuel tank. This makes it very easy to transfer the liquid with an approved hand or power operated pump.

#### **c. Vapor Valve.**

On devices designed to supply only vapor withdrawal from the tank, this hand-operated valve is connected by means of hose or tubing to the pressure regulator. The valve is the master control on the gas system and should be shut off whenever flaming is not being done.

#### **d. Liquid Valve.**

Some devices are designed to withdraw liquid from the tank and either vaporize it in a special vaporizing unit or supply it to liquid feed or self-vaporizing burners. This valve is then the master control for the gas system and should be shut off whenever flaming is not being done.

To light these liquid feed burners, the vapor valve should also be connected to the regulator line and be opened first, so vapor is supplied to the burners. The system can be changed over to liquid feed by opening the liquid valve and then closing the vapor valve if the system is designed for this type operation.

#### **e. Relief Valve.**

This device is provided to relieve excess pressure. The relief valve will function until the contents of the tank



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NEW RANGE*

**HARPER CENTER  
SIMMER BURNER**

Range buyers read about  
the new, improved

**HARPER CENTER  
SIMMER BURNER**

in these powerful  
selling magazines

**2 BURNERS IN 1**

**HARPER-WYMAN COMPANY, CHICAGO 20**



"Word-of-mouth" advertising in the past sold more than a million and a half gas ranges equipped with the Harper Center Simmer Burner. And now, for the first time, we are telling

your customers about this famous top burner, using the leading national magazines shown here. It means that some 21,500,000 women readers will know how to identify Harper equipped ranges.

It's easy to trade-up your customers to a higher priced range by demonstrating the many advantages of the Harper Center Simmer Burner...the "2 burn-

ers in 1" top burner that gives just the right heat for every cooking requirement. The measured heat of the Cooking Burner eliminates "pot-watching"... keeps kitchens cooler...requires so little water that vital minerals and vitamins are always retained, making foods tastier, more nutritious.

To help you sell more, and better ranges, we have prepared a FREE booklet, "How to Sell More Gas Ranges," which contains a series of quick, convincing floor demonstrations planned to dramatize the advantages of the modern gas range. Send for copies for your salesmen. Harper-Wyman Company, 8563 Vincennes Avenue, Chicago 20, Ill.

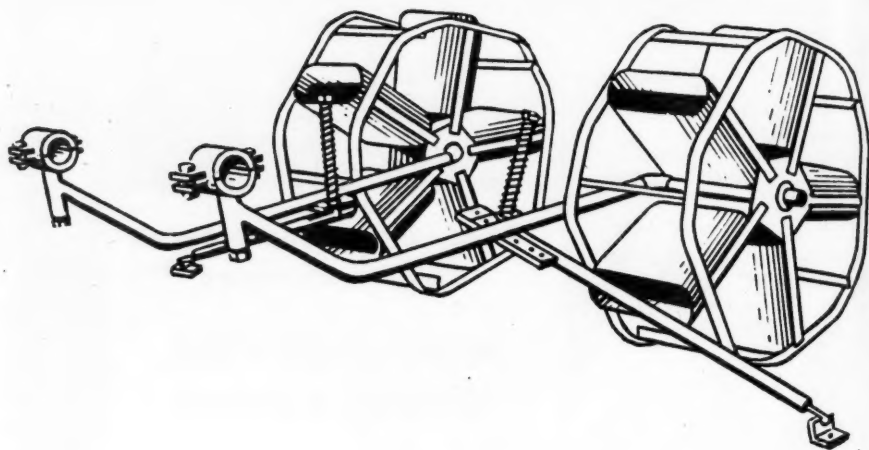


The Harper Center Simmer Burner operates on the unique principle of "2 burners in 1"...a **STARTING BURNER** for frying and to start foods boiling, plus a small, economical **COOKING BURNER**, to maintain the cooking...both controlled by the same handle. It is subject to finer gradations of low heats—greater control and economy—than any other top burner made.



"...Holds the Lines;  
for Gas"

**HARPER CENTER  
SIMMER BURNER**



The Sizz-Chopper.

are discharged or the cause of the high pressure removed.

**f. Fuse Plug.**

This plug is inserted in the tank and has a center section filled with a metal that melts at 212° F. Should the tank be involved in a fire, the fuse plug will normally not melt out until after the relief valve has discharged the tank contents. Since the relief valve closes with some pressure still in the tank the fuse plug is installed so as to relieve this pressure and prevent rupture of the container should it be temporarily weakened during exposure to fire.

**g. Maximum Filling Level Gauge.**

The fuel gauge may be any of various types but should show allowable maximum filling level. A simple and accurate gauge is a very small diameter pipe leading from the maximum liquid level in the tank to the atmosphere and having a valve at the end leading to the atmosphere.

Upon opening the valve, with the gauge set at the desired filling height, a colorless vapor will discharge from the vent at first. The instant liquid reaches this level a white vapor will be discharged. The transfer of liquid should be stopped at the instant the white vapors are discharged. Some gauges show the maximum filling height on a dial and these limits should not be exceeded.

**h. Pressure Gauge.**

This gauge indicates the pressure in the fuel tank at all times.

**Vaporizers**

Some devices are designed to withdraw liquid from the tank and provide vapor to the burners. The 1946 New Holland Sizz-Weeder has the vaporizer built directly into the fuel tank, so that only vapor is withdrawn from the vaporizer through the top of the fuel tank.

Other vaporizers in use are sep-

Available now—in quantity!



## SMITHway COMBINATION LPG SYSTEMS

25,000

More than 20,000  
in service

• With SMITHway Combination Systems you can use either butane or propane—whichever is cheaper and more easily and quickly obtainable. Heavy-duty units, with capacities from 250 up to 500 gallons, permit quantity purchases of LP gases at lowest costs.

They open up an entirely new and bigger future for the widest uses of economical LP gases in the home, on the farm and ranch, and in business and industry.

### A single SMITHway unit supplies all the gas for all uses

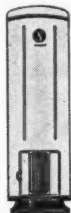
One SMITHway Combination System supplies ample quantities of gas for cooking, heating, hot water, refrigeration, light, power, flame cultivation. Underground and aboveground types available.

SMITHway Systems give you positive safety

protection, too. Made to the most exacting standards by A. O. Smith,\* they meet or exceed all safety codes. Each system is double-checked by an independent licensed insurance inspector.

Get all the facts today. Call or write the A. O. Smith office nearest you.

The A. O. Smith Corporation manufactures *Permaglas* LPG Water Heaters with mirror-smooth tanks of sparkling blue glass-fused-to-steel. They cannot rust!



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\*Makers of Auto Frames, Pressure Vessels, Line Pipe, Oil-Well Casing, Brewery Tanks, Welding Equipment, Stokers, Permaglas Water Heaters, Centrifugal and Deep-Well Turbine Pumps

grate from the tank and are designed to add sufficient heat to the liquid to convert it to a gas for utilization by the burners. Several types have been used where heat is provided by exhaust gases from the tractor, heat transfer by direct firing with an auxiliary burner, heat transfer with water heated from the tractor system, heat transfer with water heated from an auxiliary water heater, or self vaporizing burners.

So much capacity is required in the vaporizer for the multiple row flaming devices, that care must be exercised in the selection of a vaporizer adequate to carry the heavy load and deliver high pressure vaporized LP-Gas to the burners at all times.

#### Regulators

Every flame producing device, regardless of whether it has liquid or vapor feed, should be equipped with a regulator installed as close as possible to the vapor and/or liquid valve on the tank. The regulator is a device which reduces the high pressures of the gas coming from the tank to a controlled pressure to the burners. There are a large number of approved regulators for both liquid and vapor feed.

These regulators must be selected according to the capacity required by the flame producing device. Too small a regulator will give pressure fluctuation at the burners, or even too low a pressure for proper operation. The pressure can be adjusted by turning the adjusting screw in for increased pressure and out for decreased pressure.

If liquid feed and separate vapor-

izer are used, the regulator should be provided with an internal back pressure check valve or a separate return check valve unit if the regulator does not contain one. This back pressure check valve will relieve the pressure that builds up in the vaporizer when it is still functioning and all burners have been shut off. The high pressure generated will force the liquid out of the vaporizer through the back pressure check into the fuel tank.

#### Piping

All fittings and piping should be of an approved type. Lines leading to the regulator should be of 200 psi. working pressure design. If a vaporizer is also used, the 200 psi. working pressure lines and fittings should be provided up to and including the individual burner valves. Lines and fittings from the regulator, or the individual burner valves in the case of a separate vaporizer, may be of the standard or low pressure 125 lb. working pressure type. All piping should be securely fastened to minimize vibration and the tendency to spring leaks in the system. Flexible hose of an approved type should be used wherever the lines must bend to raise and lower the burners or for individual burner adjustment.

The system should be protected so that should one burner line be broken the entire tank contents will not be discharged. A small excess flow valve should be inserted between the individual outlets of the manifold and the burner valves or at valve outlets. These excess flow valves are designed to shut off should the flow of gas exceed that

EVERY HOME NEEDS 2 WAY COMFORT

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CIRCULATES  
AND  
RADIATES



HUMPHREY RADIANTFIRE

## *Circulator*

- 1 Here is RADIANT heat — sunlike heat that instantly warms the floor with penetrating rays.
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For downright heating comfort a Humphrey Radiantfire Circulator is unexcelled. This efficient, gas burning heater delivers radiant heat which travels at the speed of light to warm everything in its path, plus an abundance of circulated heat that searches out every chilly zone and converts it into a cozy, livable area. Painstaking workmanship and quality materials assure lasting customer satisfaction and build valuable goodwill for you.



GENERAL GAS LIGHT COMPANY

KALAMAZOO  
MICHIGAN

required by the burner, as would be the case should a burner line be broken.

Pipe or metal tubing should be used for the gas connection at the burner to get the flexible hose out of the range of flame which may be somewhat misdirected when adjustments are being made. The flexible hose is a necessary part of the equipment but should be protected against the intense heat of the flame, chafing and kinking.

### **Burners**

A variety of burners are in use, all designed to give a high velocity flame for good penetration of the crop row or of the weeds in weed burning. Varying degrees of success have been experienced with these burners with best results on small crops being obtained with burners having a very small diameter, high velocity flame.

The driving flame can be obtained on most burners with a gas pressure from 20 to 30 psi. gauge pressure. A gauge on the burner outlet side of the regulator or on the manifold, will indicate the gas pressure at the burners and facilitate regulator adjustment.

If the flame is lazy or yellow, the burner should be shut down and the spud or orifices cleaned, using a drill of the proper size or a small straw if the proper size drill is not available. Care should be taken not to enlarge the orifice size but merely to dislodge the dirt.

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The balance of this article will appear next month. It will discuss installation, storage and transfer equipment.

## **LPGA 1947 Convention Goes to Chicago**

The 1947 annual convention of the Liquefied Petroleum Gas Association will be held in Chicago May 27-29, inclusive, according to Executive Vice President Howard D. White.

Headquarters will be at the Sherman hotel, where ample facilities are available for a large attendance.

The exhibition hall for equipment and appliance manufacturers' displays is equipped with outside loading platform and direct elevator, with unloading crane. The meeting room on the main floor will seat more than 1000.

Requests for exhibit space will be filed as received and assignments made in the same order.

## **CNGA Sets Oct. 10 for Annual Fall Meeting in Los Angeles**

The California Natural Gasoline Association's 1947 Fall Meeting will be held on Oct. 10 according to the association's executive committee. The annual Fall Meetings serve as forums at which speakers of national prominence discuss the technical problems of the industry.

As in past years, a dinner and show will follow the daytime technical sessions. The meeting will be held at the Ambassador hotel in Los Angeles.

At a special meeting of the Board of Directors of the CNGA the resignations of Directors J. S. Fluor, Jr., and Mr. W. S. McAllister, were accepted and elected to fill the vacancies were W. Earl Dunn, of The Fluor Corp., and E. W. Walter of the Western Gulf Oil Co. Both men have long been associated with the petroleum industry.



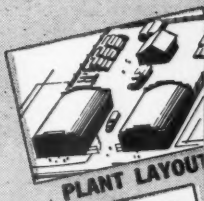
Here It Is . . . . the New

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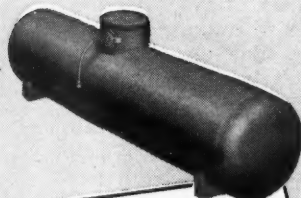
SALES  
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● Send now for your copy of the new Black, Sivalls & Bryson Propane Dealer Manual. Just off the press . . . packed with real sales-building, profit-producing ideas. And it's free, without obligation.

You can use this "Dealer's Bible" to make 1947 your biggest year. Fact-crammed articles give the complete dealer story . . . plant location, merchandise and equipment, L-P Gas sources, bulk storage installation, delivery data, organizing sales, service and accounting departments, display and local advertising and dozens of other proven ideas.

Several valuable B, S & B dealer territories are not yet filled. Write today for complete details . . . and for your big free copy of the Dealer Manual. Address all inquiries to the Propane Gas Equipment Division, Executive Offices, Black, Sivalls & Bryson, Power and Light Building, Kansas City 6, Missouri.



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## LP-Gas On Job At Farm Show

**P**ROPANE dealers and distributors, featuring complete lines of domestic gas appliances, provided a focal point of fuel interest to the half-million visitors at the 31st annual Pennsylvania Farm Show held in Harrisburg, the capitol of the Keystone State, Jan. 13-18.

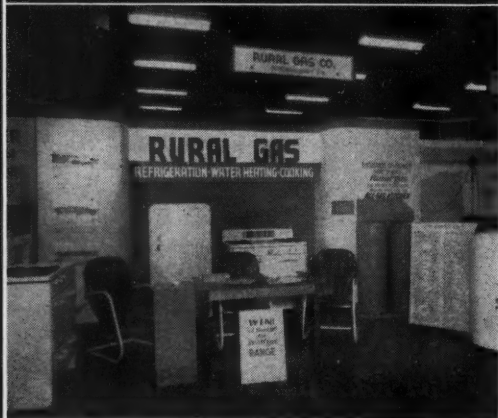
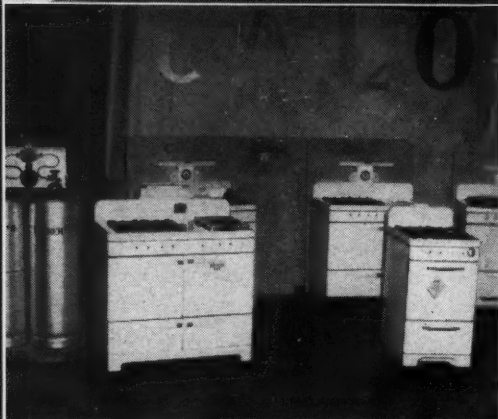
The Pennsylvania show differs from most of the conventional state fairs in that the entire display is housed under the 14 acres of enclosed exhibit space contained in the state-owned buildings.

The show is planned to be of value to every rural dweller in the state, with many features of particular interest to housewives and home makers. Statewide societies such as the 4-H clubs, Future Farmers of America, and the Society of Farm Women, all hold meetings in conjunction with, or at the same time as, the Farm Show. The result is that attendance on one or more of the days is universally looked on as a family affair, with men, women and children making up the crowds that stream past the exhibitors' booths from 8 o'clock in the morning until 10 at night.

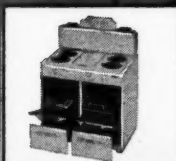
Propane distributors and dealers maintaining booths included: Atlantic States Gas Co., which has Pennsylvania bulk plants at Lancaster and Lewiston; Fuelane Corp., which serves the southern counties of the

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Three exhibits at the Pennsylvania Farm Show.  
TOP: Atlantic States Gas Co. CENTER: Caloric Stove Corp. BOTTOM: Rural Gas Co.



# Jackpot...



GAS RANGE



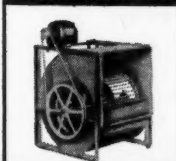
FORCED AIR FURNACE



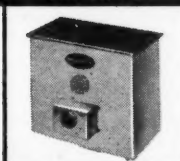
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Utility's line gives every dealer a big payoff... Highly salable modern design ... Top performance and long life ... Helpful sales and installation material.

Three bells for everyone and no lemons in this line. • Write for complete information and prices.

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*Gas fired unit heaters*

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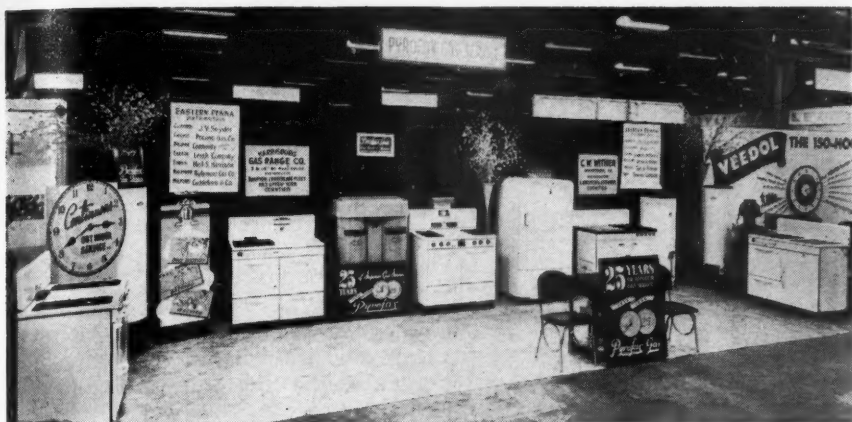
**A SIZE FOR EVERY NEED**

**REZNOR CO. MERCER, PENNA.**

**GAS HEATERS SINCE 1898**

**NO BOILERS • NO STEAM LINES  
NO FUEL STORAGE • NO FIRE TENDING**





Farm show display of Harrisburg Gas Range Co.

state from a plant at Hummelstown, Pa.; Pyrofax, with a booth occupied jointly by the Harrisburg Gas Range Co.; and C. W. Witmer of Stroudsburg, two Pyrofax dealers in the state, and the Rural Gas Co., of Williamsport, which supplies dealers in over 200 communities.

The two largest stove exhibits were maintained by The American Stove Co.'s "Magic Chef" division and by the Caloric Stove Corp., a Pennsylvania manufacturer with its plant in the Philadelphia area. Caloric aroused more than usual interest with a showing of seven ranges, several of which were handmade pre-production models from the new 1947 line.

In the Fuelane booth, a complete Roberts and Mander Corp. kitchen, with stove, sink and built-in cabinets, was featured to advantage.

For its first general farm showing in the Eastern states, a New Holland flame cultivator, designed to operate on propane gas, was displayed along with the Pennsylvania manufacturers' other lines of farm machinery and equipment.

## Lee Fielder, Fenton Duepner Join Guadalupe Butane Co.

Lee Fielder, formerly general manager of the Vapo Butane Co., of San Antonio, Texas, has resigned from that position to enter business for himself as co-owner of the Guadalupe Gas Co., at Seguin, Texas. Also leaving Vapo to join the staff of the Seguin concern is Fenton Duepner, an associate of Mr. Fielder in engineering, advertising, and sales promotional activities.

The Guadalupe Gas Co. operates in several counties in south-central Texas, and is rapidly expanding its territory. It is not affiliated with any other organization, operating independently in the distribution of butane-propane fuel, appliances, gas systems, and related equipment.

Accompanying Mr. Fielder to Seguin is his son, Tom F. Fielder, who will be in charge of field service and fuel distribution. He formerly was with the service department of the Vapo company.

## Benefits of Association Membership Stressed at LPGA Section Meeting



TALLENT  
RANSOME



H. D. WHITE

ONE of the top problems currently facing the LP-Gas industry in California is the California motor vehicle tax which domestic dealers have to pay even though they may later obtain refunds on fuel utilized by domestic installations.

The annoyance and bookkeeping cost incident to filling out forms for refunds have plagued the dealers for years and action is now planned to have this law changed on the California statute books.

It was D. D. Purrington, prominent West Coaster, who emphasized the need of concerted action to those attending the South Pacific Sectional meeting of the LPGA held in Los Angeles Jan. 28-29. In his speech at the closing luncheon, Mr. Purrington assured dealers that the only way constructive changes could be made in the existing laws was through the united

efforts through organized cooperation such as the LPGA can give and he emphasized the value to the industry as a whole Association membership which would help to prevent unfavorable legislation and guard the best interests of the industry.

The Los Angeles meeting was exceptionally well attended and the long program proved to be of unusual interest. With Talient Ransome, chairman, South Pacific Section, and Don McNary, his assistant, arranging and directing the program, the meeting went off with dispatch and uninterrupted interest.

Extracts from the talk of Ernest C. Jensen, vice president of the Bank of America, San Francisco, will be found on Page 74 in this issue.

Tom Baggette, visiting the Pacific Coast to aid dealers and farm-



D. D. PURRINGTON



BUDD MULLOY



**SAFE and  
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# CLIMAX

**PRACTICAL and  
EFFICIENT**

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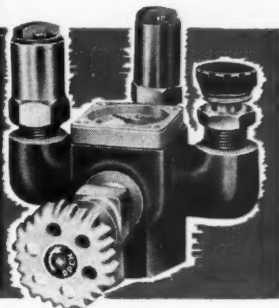
Proven and accepted by L. P. G. Industry. Built to comply with the published requirements of the National Fire Underwriters' Board.



### SIMPLIFIED INSTALLATIONS WITH ONLY 1 CONNECTION!

The complete Control is factory assembled and tested, thus requiring only one tank connection to obtain these operating functions.

- Quick fill valve with slug check
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- Vapor line shutoff valve with or without slug check
- Liquid withdrawal valve with or without slug check
- Magnetic float gauge
- Pressure gauge (optional)
- Safety relief valve
- Pigtail
- Expansion coil
- Pressure reducing regulator



MODEL 201-B FOR VAPOR  
AND LIQUID SYSTEMS

MODEL 251

**MODEL 201-B.** Will accommodate 1 1/4" Filler Valve, 3/4" Vapor Return, 2 Relief Valves, Vapor Line Valve, Liquid Line Valve, Gauge Opening provides for the use of either float or slip-tube type liquid level gauges.

**MODEL 201-A.** Will accommodate 1 1/4" Filler Valve, 3/4" Vapor Return, Relief Valve, Vapor Line Valve, Gauge Opening provides for the use of either float or slip-tube type liquid level gauges.

**MODEL 201-C.** Special (Fitted to meet special requirements). Will accommodate 1 1/4" and 1 1/2" Filler Valve, 3/4" Vapor Return Valve, 3 Relief Valves, having a total relief area not exceeding 1.5 sq. inches relief area, gauge opening for use of either float or slip-tube type gauge, either one or two line valves, opening for pressure gauge (where required) and regulator.

### FOR TWO RISER INSTALLATIONS

**MODEL 251.** Will accommodate senior float type liquid level gauge. 4 3/4" openings accommodate two relief valves, line valve, vapor return, adaptable to 1 1/2" tank riser.

**MODEL 250.** Will accommodate senior float type liquid level gauge. 3 3/4" openings accommodates vapor return valve, relief valve, line valve, adaptable to 1 1/2" tank riser.

**MODEL 252.** Will accommodate junior size float type liquid level gauge. 3 3/4" openings accommodates vapor return valve, relief valve, line valve, adaptable to 1 1/2" tank riser.



**TYPE 2020**—for reducing storage pressure to that utilized in distribution system. Can be furnished with 1/2" N.P.T., 3/4" N.P.T., or .970 P.O.L. inlet connection.

**TYPE 2015**—for reducing storage pressure to appliance operating pressures. Compact design especially desirable for use with bottles. Can be furnished with 1/2" N.P.T., 3/4" N.P.T. or .970 P.O.L. inlet connection. Orifice suitable for propane, butane or propane-butane mixtures.



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**C** LIMAX Regulators are precision built to rigid specifications to assure safe, trouble-free installations. Climax Control Heads are extra strong, safe and efficient. All models completely factory assembled, with or without fittings. Other combinations than those illustrated are available. Write for literature and full specifications.



CARL GOLDEN



TOM BAGGETTE

ers in their plans for flame cultivation of row crops, presented a sound picture of the "Sizz Weeder" cultivator and discussed this subject from the standpoint of its possibilities as a load builder. A review of his talk will appear in the April issue of BUTANE-PROPANE News.

Among other speakers on the program were Howard D. White, executive vice president, Liquefied Petroleum Gas Association, and Budd Mulloy, account executive for the LPGA publicity campaign conducted by the Lawrence H. Selz Organization, both of Chicago. Mr. White spoke on "The Inside Story" of the LPGA and Mr. Mulloy's subject was "Planning Tomorrow's Sales Today," during which he presented graphic illustrations of the character of the current publicity program being conducted by his organization and figures upon the results which have been obtained.

Other speakers on the two day program were:

Oliver Johnson, assistant fire protection superintendent, Stand-

ard Oil of California, "Properties of LP-Gas That Affect Fire Hazards."

Charles A. Bonner, superintendent, safety division, Pacific Indemnity Co., "Operational Safety in Fleet Transportation."

Llewellyn M. K. Boelter, dean of the college of engineering, University of California at Los Angeles, "Engineering Extension Can Help You."

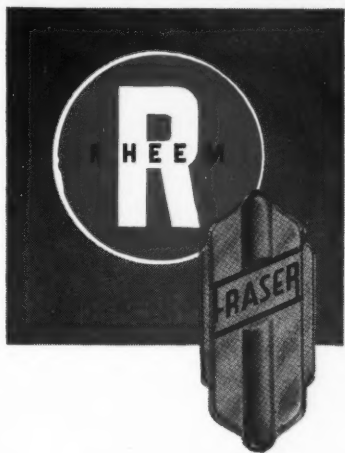
Carl E. Golden, production engineer, Ransome Co., "A Practical Application of the Rudiments of Gas Pressure Regulation."

## Added Standby Storage Planned for Detroit

A further increase in standby facilities for the storage and use of liquefied petroleum gas is in prospect for Detroit gas users with the announcement today by Stacey-Dresser Engineering, Cleveland, a division of Stacey Bros. Gas Construction Co., that it has been awarded a contract by the Michigan-Consolidated Gas Co. to handle engineering and erection details of the new installation.

The original plant built last year by Stacey-Dresser engineers provided Detroit with an additional 20,000,000 cubic feet of gas per day during the recent cold spell. The new facilities, to be provided at a cost of something over \$1,000,000, will step up this capacity by another 30,000,000 or 40,000,000 cubic feet per day.

When completed, the old and new installations together will consist of 96 30,000-gallon tanks and constitute the world's largest storage plant for liquefied petroleum gas serving the gas industry, according to E. A. Flaschar, general manager of Stacey-Dresser Engineering.



## **A distinguished new member joins the RHEEM Heating Family**

### **THE FRASER FURNACE LINE . . .**

for twenty-five years one of the leaders in the gas heating field—has joined the famous Rheem group of heating products. The merging of these two great heating lines will bring to both the advantages of expanded production facilities and wider design experience.

The Fraser line will be made up of the same extensive group of floor and basement furnaces, winter air-conditioning units, blowers, registers and grilles. And Fraser will continue with its present sales policy. The traditional high quality of Fraser products will be maintained and improved as new engineering developments are made.

To the present family of Fraser distributors and dealers, the Rheem organization extends a warm welcome. To future dealers, the Fraser division of Rheem offers a complete line of heating equipment, designed to give lasting satisfaction through the latest developments in heating engineering. Rheem, 570 Lexington Avenue, New York 22, N. Y.

**RHEEM** . . . *making houses into homes*



## If You Need Expansion Capital, Try Your Local Bank

**A**T the South Pacific Sectional meeting of the LPGA in Los Angeles on Jan. 28-29, Ernest C. H. Jensen, vice president, Bank of America, San Francisco, spoke upon the subject "Money Talks," it being a discussion of ways and means whereby LP-Gas dealers can finance their operations through bank loans. (See full story of convention on Page 70.)

What the Bank of America is doing for California dealers can be duplicated by similar institutions in other states providing dealers elsewhere will present to their bankers the information necessary to obtain comparable help. For that reason dealers will be interested in the following extracts from Mr. Jensen's talk:

Our interest in the association from the legal angle is that we have invested considerable sums of money in your hands already, and we hope to lend considerable sums more so that your industry will expand and prosper over a number of years. Another benefit to the industry is that it tends to make the methods of doing business and credit policies more uniform, and when things are more uniform they are more easily understood.

Let's think of another class of business for instance. Take for instance the cannery industry. A canner can borrow more money for his net worth than any other industry as we know exactly how he is doing business, what his problems are and how the loans will be repaid.

Another instance is the banks themselves. Banks are associated in various groups, and we pass on information to each other. That association tends to make banks more stable and more useful throughout the nation.

LP-Gas is a comparatively new industry and you have had many new problems and those problems were very largely local problems of the time. Each of you has solved those problems the best way he could. The result is the solutions are all different. You have grown up, and as you have had a particular problem or method of doing business you have solved that according to your individual judgment.

### Lease Forms Need Improving

I have looked over several of the lease agreements with your customers and I think they could be improved. That is a question for your association to take up and may be worked out with some legal advice so that your agreements are more or less uniform and legally enforceable.

For financing expansion we have a facility in the bank which we call a term loan. That is a loan which is made for a number of years and payable over a period of time, as much as five years. That is not a current debit. So many of the loans which we have made to industries usually are 30, 60 and 90 day notes which are probably not very well thought of. To begin with they tend to become constant debits.

Now you have a definite cost of adding a customer. It seems to me that it might cost you as much as \$200 to add a new customer. Some of



**21** YEARS OF EXPERIENCE  
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**PHILLIPS PETROLEUM COMPANY**

PHILGAS DIVISION

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DISTRICT OFFICES IN NEW YORK, CHICAGO, PHILADELPHIA, DETROIT, ST. LOUIS,  
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THE WORLD'S LARGEST MARKETER OF LIQUEFIED PETROLEUM GAS

that you, of course, can get back through selling for cash. But every time you add a customer you are also adding a need for more trucks and fixed equipment, and so it comes to a point where you must expand after a number of customers have been added over a period of time.

We suggest that you might approach us for a term loan, and before you do so we would like you to make a careful survey of the territory you serve and estimate the number of customers you will add and amount of transportation equipment, storage and other equipment you will require and outlays required, taking into account the fact that many of the outlays can be financed through us on individual transactions.

#### **Finance Individual Sales**

We can reduce the outlay on customers to a very small amount of money by financing on individual transactions, but it seems to me that there are cases where a term loan would be very advantageous because as you add more customers you are always adding more fixed equipment. I think it would be quite possible for you to finance this if you did not have to pay income taxes, but unfortunately we all have to pay income taxes.

We would ask for a profit and loss statement and balance sheet for several years to indicate what you have done in the past and propose to do in the future. We would then come to a reasonable amount which you could borrow for a number of years and pay back to the bank without a strain on your working capital.

It seems to me that now that you have so many customers and have so many customers waiting for service, they will just have to wait. If you do not watch your credits closely, by taking on only customers who will pay their bills, you will notice your accounts receivable are not turning

over fast enough for your expansion and you will have trouble with your accounts payable.

You can't very well amortize your storage installation if you don't get your money on your monthly bills. You therefore have a problem which will run for months and months and find you have a lot of accounts receivable which you are carrying. You have a look at your customers and we will help you with the credits.

You should understand that there are other forms of loans available to you providing you are able to reduce your requirements.

For instance, the tanks you buy for resale. For anyone leasing or selling tanks today, we will finance the tanks under the California Trust Receipt Law and it usually works this way. You ask us for a floor loan for tanks and we will finance them 90%. We will either pay you or the manufacturer for the tanks and you pay us as you take the tanks out of your stock and sell them. Your obligation to us is that you would not buy any more tanks than you can sell in a period of three to six months.

However, we are not prepared to finance interchangeable bottles in this way because the individual balance on each is so small. If items are too small the book work is quite prohibitive. We ask that transactions be for larger items of \$60 to \$150 or higher.

#### **Buy Tanks by Carload**

If you want to order tanks we would prefer to have these orders in larger amounts. We would like to do these transactions by the carload. We will arrange, if your credit is approved, to have the manufacturer sell you the tanks on a Conditional Sales Contract and we ask that you make a 20% down payment at the time of purchase and we will give you 36 months to pay for the tanks and you can start making your payments three



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*improve your product*

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## ...DESIGNED FOR SERVICE

Yes, "Better Fittings Improve Your Product". In design, many little things add up to make a better fitting. For instance, larger machined radii under a hex head leaves more material, makes a stronger part and provides an extra safeguard against shock loads or abusive handling. Filler Valves with larger passageways make for quicker filling. The complete line of Selwyn-Landers fittings are of the finest materials and workmanship throughout. Let us quote on your requirements.

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Designers and Manufacturers of L. P. G. Equipment

months after the date of the contract, which gives you a chance to get the tanks out earning money.

That will cost \$3.20 a hundred for a year with interest at 6%. If you think this form of financing for tanks would meet your needs when you talk to your supplier and you would like one, come in and we will fix it for you. All the suppliers will allow this without recourse. It is merely a method of making a loan.

On the financing of transportation equipment: When you are expanding we know that you will need trucks, and if you have any trucking problems we want you to come to us. We understand what your trucks look like, and that you need them and that you use them all the time and they are earning factors in your business.

#### **The Value of Large Stocks**

We will finance the floor storage of your household appliances, storage water heaters, circulating heaters—anything which is valued at \$50, or more. We will buy those for you or you may buy them at 90% of the cost. These transactions can cover three, four or five months and you could not buy more than five months' supply, depending upon your delivery from the supplier. Nowadays your orders are in larger amounts than you would normally order. You will carry a larger stock so that your customers will be encouraged to purchase more appliances.

It is a big selling point if you have a lot of nice equipment—a hot water heater, maybe a gas refrigerator, etc. A lot can be done with the proper installation properly planned. On household appliances we will finance the contracts.

In retail selling of appliances right at this moment your customers might not be so interested, but later on you are going to find that your customers

are not paying cash for everything and will of necessity purchase much on the installment plan. When we buy these contracts from you we make all the collections and if we lose the appliance due to fire or theft, etc., we relieve you of all responsibility.

On the purchase of appliances, if your customer doesn't pay, then we ask that you take back the appliance and pay off the balance of the unpaid amount. The down payment is 30% and so you would not be having any particular risk. We do ask that you help us and support us if the customer defaults.

#### **Long Loans on Bulk Plants**

We also will make secured loans covering the installation of bulk storage tanks providing you can assure us by financial statements and profit and loss statements that the installation of these tanks will improve your business. We are willing to make loans on your bulk storage tanks over a period of three to five years, depending on what is your immediate problem.

As a matter of fact, the simplest forms are forms the bankers use themselves. We have forms in the bank—a form of note and a form of chattel mortgage—which don't have our name on them. You don't need a lot of fancy agreements. Bank forms have all important clauses in them.

In summary, therefore, we have facilities for financing your every need, including the sale and purchase of an established business, joint action and cooperation, a joint research for your association for economies and short cuts, better legal agreements with your customers, uniform safety measures resulting in an improved credit standing with your banker, who is willing to finance your expansion and to give you a chance to grow.

# Employee Group Insurance Plan Presented to NBPA Members

**F**OLLOWING many weeks of investigation and effort, E. E. Hadlick, executive vice president of the National Butane-Propane Association, announces that his organization has presented to its members a plan whereby they and their employees can participate in a group accident, life, health, hospital, dismemberment, etc.,



**E. E. HADLICK**

over-all insurance program. It is for members, who, because of lack of enough people to form a group of their own, or because of the limited coverage of their present program, want to subscribe to a plan of this kind through the Association. All members, however, regardless of how many employees they have, are eligible and non-members automatically become

eligible when they join the Association.

This insurance program is written by the John Hancock Mutual Life Insurance Co. It is a plan well known to concerns having hundreds of employees. No small groups can be underwritten on their own.

Each Association member who subscribes will contribute at least 50% of the cost for each of his employees who enroll but may contribute a greater share of the cost if desirable. The part which is paid for the employees is fully deductible as a business expense on the income tax return. The cost of the plan is shown in Table 1.

The above represents the approximate full cost. When the plan is in operation and the ages of all insured are definitely ascertained, there may be a slight fluctuation one way or the other. If so, proper adjustment will be made. All members and employees are eligible for the insurance regardless of age or physical condition. There will be

**TABLE 1.**

<i>Monthly Salary Classification</i>	<i>Employee Only</i>	<i>Employee and Dependents</i>
Less than \$131 .....	\$3.06	\$5.53
\$131 to \$175 .....	4.06	6.53
175 to \$251 .....	5.06	7.53
\$251 and over .....	7.06	9.53

no medical examination required for those who join the plan promptly. New employes will become eligible as soon as they have completed three months of continuous active employment. Any employe not actively at work when he would become eligible, will be eligible upon returning to work.

This plan is considered very desirable from the viewpoint of employer-employe relationship. It means providing a real security plan for employes and their families, as well as for the employer, his wife, and his children. It should not be confused with hospitalization insurance because it is a lot

more than that, states Mr. Hadlick. It is hospitalization insurance, loss-of-time insurance, surgical insurance, life insurance with death benefits paid to beneficiaries, etc.

It pays the insured or his family a weekly amount because of insured's inability to work. It pays insured or his family one or several thousand dollars (depending on the salary classification) upon death, or loss of arm or leg, or loss of sight, etc. In short this is a comprehensive plan providing for income during a time when income would cease because of inability to work due to bad health or accident.



Officers of the newly formed Illinois Liquefied Petroleum Gas Association. Left to right (front row): R. E. Weilbacher, secretary-treasurer, Columbia; E. E. Rapp, president, Sparta; Walter Miller, vice president, Chicago. Back row: H. I. Silverman, director at large, Salem; Thornton Casey, chairman, Southern District, Centralia; A. J. Woelfle, chairman, Central District, Bloomington; Tom Emmett, chairman, No. Dist., Rockford.

HERE'S WHERE  
*Hot Water Satisfaction*  
BEGINS!

**THERE IS  
NO GAMBLE  
TO THIS  
"WINNING TIP"**

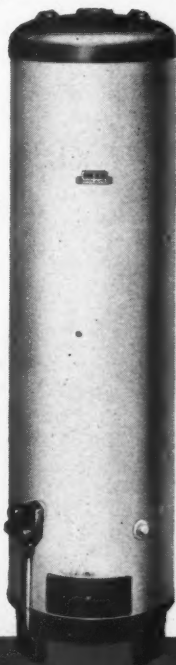
The dealers who display, merchandise, sell and install United States Water Heaters are winning in every way — new friends, loyal customers, substantial profits. There is satisfaction in every sale — for both dealer and customer — why? Because United States Water Heaters are High in Quality — Low in Cost — Economical in Operation — Dependable in Performance — Long in Service.

Exclusive performance features are built into all models, insuring positive satisfaction, whether the model be for bungalow, mansion, apartment house, restaurant, hotel, school, or any other domestic or commercial application.



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**STANDARDIZE  
ON U-S-H**

A wide range of models provides dealers with unlimited fields of sale from one water heater manufacturer, thus permitting a dealer to standardize on the famous line of United States Water Heaters for the requirements of all of his customers.

Take this "Winning Tip"  
— display, sell and install  
"U.S.H." Water Heaters.

# Efficiency and Safety in Truck Design

**T**HE value of hose reels on LP-Gas delivery trucks is being successfully demonstrated by the Airlene Gas Co., Fulton, Ky. With six of its trucks so equipped, this firm's records show greatly increased speed in transfer operations and a higher degree of insurance against accident.

Airlene's trucks are of the latest design, with emphasis on safety features. Basically, they follow the ideas of P. G. Boyd, vice president of the company, who has tried to make his equipment of the highest practical value and attractive in appearance. These standards are paying him dividends.

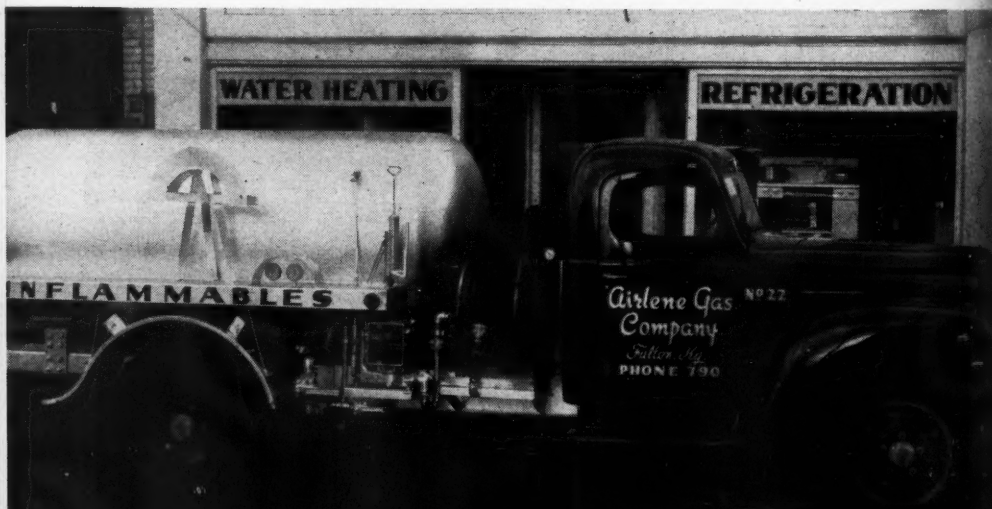
Mr. Boyd's description of his trucks and operations in a recent letter offers many constructive ideas for other dealers:

"At the time these trucks were be-

ing designed," Mr. Boyd states, "we were attempting to devise a hose reel and actually did have one constructed, which, of course, was rather simple, in that it was operated similarly to the typical garden hose reel. About that time, the Ace Hose Reel Co.'s advertisement in BUTANE-PROPANE NEWS was seen and it seemed so adaptable to our particular problem that an order was placed with them immediately.

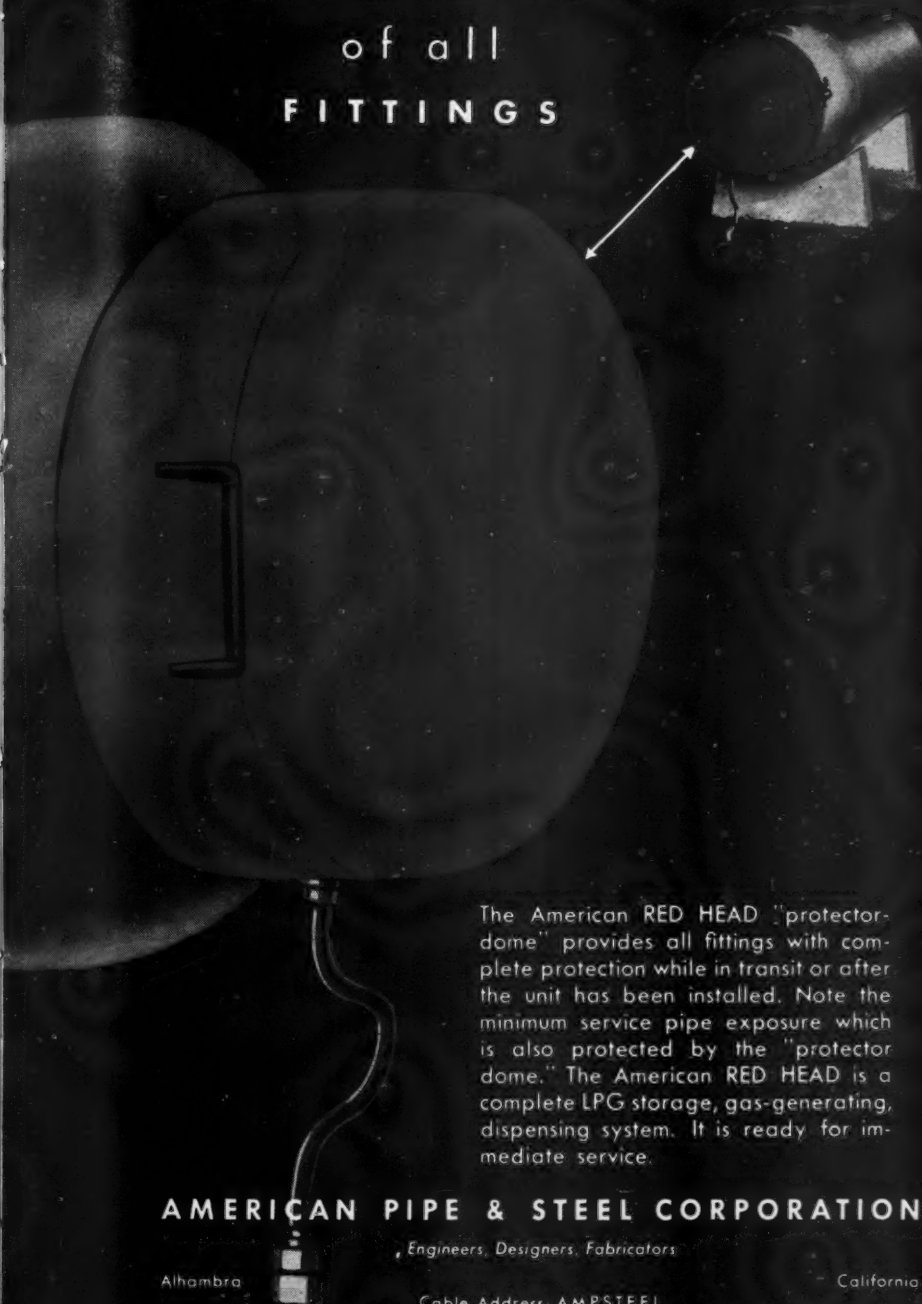
"We find the hose reel satisfactory in every respect, as it has always been a problem to handle a relatively large length of hose, and in some instances we have the entire 50 feet out and an additional 50-foot extension in use. You will note on the side of our truck there is a rack, nearly over the rear wheels, which is for the express purpose of strapping down an addi-

A 1200-gal. propane delivery truck of Airlene Gas Co., Fulton, Ky., one of six operated by this company. Note the semi-hydraulic, fully automatic hose reel.





American "RED HEAD" Offers  
COMPLETE PROTECTION  
of all  
FITTINGS



The American RED HEAD "protector-dome" provides all fittings with complete protection while in transit or after the unit has been installed. Note the minimum service pipe exposure which is also protected by the "protector dome." The American RED HEAD is a complete LPG storage, gas-generating, dispensing system. It is ready for immediate service.

**AMERICAN PIPE & STEEL CORPORATION**

Alhambra

Engineers, Designers, Fabricators

Cable Address: AMPSTEEL

California

# Quality Is The Thing

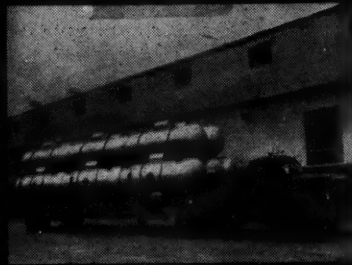


"Once people get used to quality, they dislike to give it up. What was luxury becomes necessity." Let's take a quick look at the UTILITY picture. More DEALERS are buying and selling UTILITY LP Gas Systems today than ever before because they are known the country over for quality workmanship and continued performance.



## Utility Systems

- DOMESTIC
- COMMERCIAL
- INDUSTRIAL
- STORAGE SYSTEMS
- TRANSPORT TRUCK TANKS



ALL UTILITY SYSTEMS are given rigid inspection by the National Board of Boiler and Pressure Vessel Inspectors.

*Write Today for Illustrated Literature*

3301 South Lamar

Dallas, Texas

**BUTANE EQUIPMENT COMPANY INC.**

tional 50-foot wet line hose which couples up in the same manner as if it were a tank. The outstanding feature of the reel is that it is fully automatic, requiring no spring or motor attachment.

"These trucks were designed with the express purpose of speeding up the transfer of butane and we believe we have accomplished this by several unique items and also instructing the drivers to follow a certain procedure. For example, we have installed what is known as a motorboat throttle just inside the passenger door and to the right of the door, which enables the operator to speed up his engine without having to climb into the cab. Further, the conventional type button usually wears rapidly and as a result, engine speed cannot be maintained with the conventional truck equipment.

"Inside, to the left of the door, is placed a Pyrene 1-quart fire extinguisher, this being the most convenient place we found. A 15-lb. fire extinguisher is located on the rear of the truck in a holder of sufficient depth that the extinguisher cannot bounce out, yet loose enough that it can be removed in an instant.

#### **How Driver Proceeds**

"In delivering gas, our drivers follow this procedure: Upon stopping, they immediately place the power take-off in gear and, of course, set the hand brake. The motor is left idling while the driver walks around to the right rear of the truck and places the chock blocks under the wheels. Next, he places his ticket in the meter, which of course registers zero at the start of the delivery. Then the main line inlet valve is opened to the pump, which circulates liquid through a by-pass line back to the main tank.

"This valve is left open until the

connection is completed at the customer's tank and the driver returns to the truck and closes this valve down, as his gauge reading will show the number of gallons that he should deliver, the gallonage visible on the face of the meter. If the delivery rate is too slow, he speeds up the motor slightly, with the previously mentioned control. At the proper time he simply opens the by-pass valve and shuts off both the inlet and outlet valves to the pump, returns to the tank and disconnects the line, gives the hose a yank and starts the hose reel to winding up the hose.

"You will note in the accompanying photograph that the hose is fastened down with a coupling on the side of the frame of the hose reel, which keeps it in place while the truck is in motion.

#### **Fill Tanks Every Trip**

"After the above operations have been performed, the ticket is cleared from the meter and, should no customer be at home, our driver merely continues on his run, as we have worked out with every customer the desirability of keeping his tank filled, regardless of his being at home or not.

"The above operations, plus the improvements placed on this truck, have enabled us to deliver at least 50% to 100% more gas in a given amount of time, and we are of the opinion that the cost of the hose reel is fully justified.

"The tanks are owned by the consumers and we deliver on the basis of the meter installed on the truck, and bill accordingly.

"We do have some cylinder operation through a sub-dealer arrangement, these cylinders being owned directly by the sub-dealer or ourselves, and these cylinders are filled at the various gas depots."

## Laws Made and in the Making

**H**IGHLIGHTS of legislative matters pending and enacted, are contained in a recent bulletin issued by Arthur C. Kreutzer, legal counsel for the Liquefied Petroleum Gas Association:

### Arkansas:

Senate Bill No. 130 by Brown provides for the regulation of the transportation and sale of LP-Gas, containers, appliances and equipment and repeals the previous act. While substantially the previous act, the new bill makes the following changes: (1) Eliminates inspection fee on appliances; provides Department may establish standards in regulation "provided such regulations shall not require any approval or seal of any testing laboratory, association or society." (2) Permit is required for dealer (one who sells LP-Gas or containers directly to user). (3) Limits examination of employes to those handling LP-Gas or connecting container to system. No mention is made of previous certification requirement. (4) Provides for an advisory board in the issuance of regulations. (5) Manufacturers are still required to file bond, but other provisions are eliminated. (6) All reference to NBFU standards or other standards are eliminated. No fees are specified other than the inspection fee contained in the present act.

### (1) California:

Assembly Bill No. 158 provides for signs on vehicles carrying "inflammable liquids in quantities in excess of 100 gallons." It has been referred to the Committee on Transportation and Commerce.

(1) Assembly Bill 7 and Senate Bill 10 increase the tax rate on motor vehicle fuel (other than gasoline), from 3c to 9c per gallon effective July 1, 1947. The Assembly Bill has been referred to Revenue and Taxation Committee and the Senate Bill to the Transportation Committee.

(2) Assembly Bill No. 526 by Lowrey adds Section 84 to the Vehicle Code requiring internal shut-off valves on vehicles transporting "explosive substances, inflammable liquids," etc. Referred to the Committee on Transportation and Commerce.

### (2) Colorado:

Senate Bill No. 513 concerning Petroleum and Natural Gas (introduced by title only). Referred to Finance Committee.

Senate Bill No. 451 by Brooks and Cheever relating to the use, etc., of LP-Gas and the design, etc., of equipment "and to establish a Colorado Liquefied Petroleum Gas Commission" (introduced by title only). Referred to Judiciary Committee.

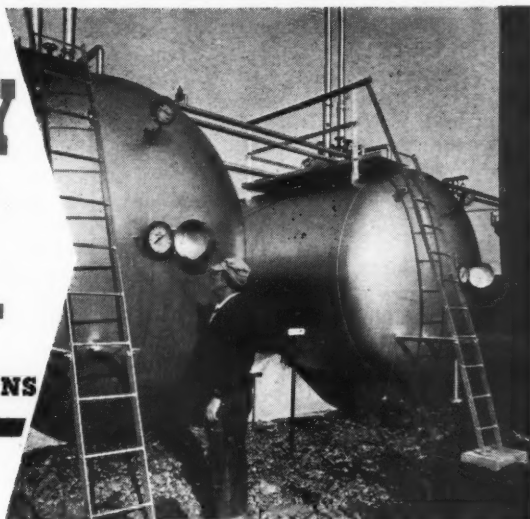
Senate Bill No. 515 by Brooks and Cheever relating to use, etc., of LP-Gas and the design, etc., of equipment (introduced by title only). Referred to Judiciary Committee.

House Bill No. 1005 by Strain and Gast relating to the use, etc., of LP-Gas and the design, etc., of equipment "and to establish a Colorado Liquefied Petroleum Gas Commission" (introduced by title only). Referred to Finance, Ways and Means Committee.

House Bill No. 1032 by Strain and Gast relating to the use, etc., of LP-Gas, and the design, etc., of equipment. Referred to Mercantile and Manufacturing Interest Committee.

# ACCURACY *that means* SAFETY...

IN OVER 750,000  
LP GAS INSTALLATIONS



*Rochester "Magnetron" Propane Gas Gauges on the bulk storage tanks of the Delaware Light & Power Co., Wilmington, Delaware*

**For Bulk Storage Tanks  
... Specify the Rochester**

*"Magnetron"*



Model 3142 is designed for end mounting on large pressure vessels. Ruggedly constructed with heavy forged brass flange, metal float with counter-balanced arm, 8" diameter dial.

**For Small Domestic LPG  
Systems ... The Rochester**

*"Criterion"*



This 2" dial gauge is mounted in standpipe or compact-type head. New welding nozzle shown eliminates threaded connection, simplifies installation, is less expensive.

**Rochester LP Gas Gauges  
Underwriters' Listed.. used by all  
leading producers, distributors**

Rochester LPG Gauges are made so accurately that you never need to worry about safety, from the standpoint of measurement. That's the kind of a gauge *you* want when you are handling propane and butane gas. That's one of the reasons Rochester LPG Gauges are Underwriters' Listed, why they are specified by leading producers and distributors. Insist on "Criterion" or "Magnetron" Gauges because—

1. They are individually calibrated for accuracy. Actuated by permanent, non-electric magnets, each magnet is checked for magnetic flux strength.
2. Rigid processing guarantees that each magnet will always retain its attraction power. Therefore, pointer operation remains true.
3. Leakproof construction, achieved by the use of magnetic action, assures trouble free service.

**ROCHESTER MANUFACTURING CO., INC.**  
17 Rockwood Street • Rochester 10, New York

**Rochester**  
*Guaranteed Accuracy*

**ENGINEERED INSTRUMENTS**  
LIQUID LEVEL, TEMPERATURE AND PRESSURE GAUGES

House Bill 645 by Bledsoe, et al, imposes an additional 2c a gallon fuel use tax.

**(3) Delaware:**

House Bill No. 37 by Brown provides for the establishment of the office of State Fire Marshal with power to make and enforce regulations for the keeping, etc., of "inflammable materials," "crude petroleum or any of its products," and "inflammable fluids" among other items. Referred to the Miscellaneous Committee.

**Idaho**

House Bill No. 112 by the Revenue and Taxation Committee, the "Use Fuel Tax Act of 1947" would impose a 5c per gallon use fuel tax.

**Iowa:**

House Bill 155 by Nielsen prohibits the transportation of motor vehicle fuel or flammable liquid upon the highways from one-half hour after sundown until one-half hour before sunrise. It has been referred to Motor Vehicles and Transportation Committee.

**Michigan:**

Michigan has adopted regulations covering LP-Gas. These are in substantial conformity with NBFU Pamphlet 58, as revised, but have additional requirements as to (1) submission of plans on installations over 501 gallons water capacity; (2) a 500 ft. area map on installations over 1200 gallons; (3) 150 ft. distance from property lines, etc., on bulk storage and domestic containers over 1200 gallons water capacity; (4) in practice limiting retailers to 1000 lbs. of LP-Gas storage, over 1000 lbs. must be located 50 ft. from buildings, property lines, etc.; (5) location requirements on pump house, filling room and warehouse at bulk plant.

They contain clauses exempting existing installations conforming to then existing safety standards and provide for modification where strict enforcement would create hardship. Copies will be available shortly and should be secured from Chief, Fire Bureau, Michigan State Police, Lansing, Michigan.

An LPGA committee secured some relaxation of proposed rules that were much more severe and is hopeful of further modification as experience will justify.

**Nebraska:**

It is expected that the LPGA Model State Law will be introduced in the immediate future.

**Ohio:**

It is expected that the LPGA Model State Law will be introduced in the immediate future.

**South Carolina:**

Senate Bill 53 by Williams and House Bill 112 by Chandler, et al, the LPGA Model State Law, has been introduced and referred to the respective Judiciary Committees.

**South Dakota:**

House Bill 17, the LPGA Model State Law has been passed by both the House and the Senate.

**Tennessee:**

House Bill 288 by Carney and Senate Bill 164 by Hogan provide for the inspection before sale of butane, propane, ethane and methane. These bills would bring the foregoing products within the Petroleum Inspection Act of Tennessee and would place an inspection fee of 20c a barrel (50 gallons) on butane and propane.

House Bill 39 the "Tennessee Retailers' Sales Tax" approved by the Governor on January 24, 1947, spe-



# EXCLUSIVE

## UNIT REPLACEMENT PLAN SAVES METER REPAIRS IN THE FIELD

**SAVES YOU MONEY... SAVES YOU TIME**

Although we make our meters as well as we know how (many of our Red Seal Meters showing total registrations of 5,000,000 gallons and more still being in good operating condition) like any mechanical device, they need occasional attention.

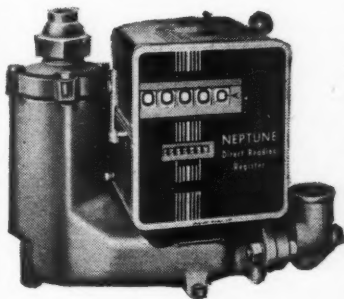
So in order to keep your meter operations at the peak of dependability over a long period of time, with sustained accuracy, and to make your Red Seal Meter investment one of complete satisfaction, we established the Unit Replacement Plan. This plan allows you to exchange the following parts for guaranteed factory rebuilt replacements at a nominal cost—

Register  
Gear Train

Measuring Chamber  
Vapor Release Unit

Adequate stocks of these unit replacement parts are kept on hand at our strategically located branches and petroleum equipment jobbers. In this way you have no expensive rebuilding or repairing to do in the field. Your meters are kept in continuous service, you save money, time and temper.

Your local Neptune representative will be glad to give you the full details! Or, write us direct.



**NEPTUNE RED SEAL METERS**  
*Accuracy you can bank on*

NEPTUNE METER COMPANY, 50 WEST 50th STREET, NEW YORK 20, N. Y.

MARCH — 1947

cifically states that LP-Gas sales are not exempt from the sales tax provisions.

#### **Washington:**

(1) House Bill No. 106 by Riley and Zent provides for the licensing and bonding of "contractors" and employes engaged in the installation of "pressure piping." It furthermore empowers the Director of the Department of Labor and Industries to issue rules and regulations. This bill has been referred to the Committee on Labor Relations.

(2) Senate Bill No. 47 by Lee (at the request of the Insurance Commissioner) sets up the office of State Fire Marshal with power to require conformance with minimum standards for the prevention of fire. It has been referred to the Insurance Committee.

House Bill No. 69 by Donovan and Jones increases the fuel use tax to 15c a gallon. It has been referred to the Roads and Bridges Committee.

#### **West Virginia:**

House Bill No. 10, by Krught, enlarges the powers of the State Fire Marshal by imposing on him the duty to make and promulgate rules and regulations relating to "the storage and use of combustibles and explosives." Referred to the Judiciary Committee.

#### **Utah:**

Senate Bill No. 9, providing for a State Fire Marshal has been reported favorably by Committee.

#### **Federal Regulatory:**

Freight Rates (1CC): (1) LPGA has filed a Petition for Suspension with the Interstate Commerce Commission on tariffs cancelling commodity rates and exception ratings on LP-Gas, in tank cars, in Illinois Freight Association Territory.

(2) Carriers in Southern Freight Territory still have under consideration action toward cancelling commodity rates and exception ratings.

### **Butane Law Passed**

A new city ordinance regulating the handling of butane gas has been passed by the Sherman, Tex., city commission. The law prohibits storage of gas in the city limits and specifies methods of handling and transporting the product.

### **"ABC of LP-Gas" Again Available to Dealers**

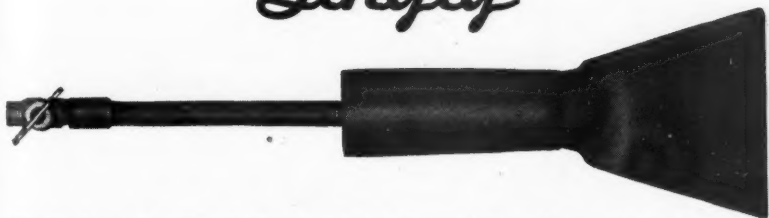
Liquefied petroleum gas dealers and distributors will be interested to learn that there is again available for distribution a new reprint of the article entitled "The ABC of LP-Gas."

This pamphlet explains how and where liquefied petroleum gas is made, its many applications, safe handling practices, the inflammability limits of the gases and other elementary facts of value to every operator offering LP-Gas service to the public.

Originally, the article appeared in the June, 1939, issue of BUTANE-PROPANE News. It was published again in this magazine in June, 1944. Now the third reprinting in pamphlet form is off the press and can be obtained by dealers for their employes and for distribution among prospective users who want to learn some of the technical facts regarding butane and propane.

Sample copies will be sent free to those making requests and quantity lots may be had at \$6 per 100 or \$35 per 1000. Those dealers ordering in quantities of 1000, or more, may have their imprint on the back cover without additional charge. Send your request to BUTANE-PROPANE News.

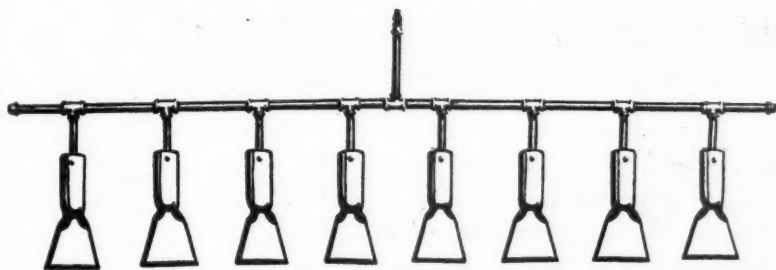
## *Singly*



Used alone, the No. 2 Blow Torch is outstanding for many agricultural and industrial heating jobs. Some of these uses include: weed burning, heavy pre-heating, paint burning and scraping. It burns weeds at their base—scrapes at the same time. For heating and scrap-

ing rust from sheet metal, it's excellent. When necessary, primary and secondary air can be taken in at venturi by use of simple adaptor. Burner tube and blade is 10" overall; width of blade 5". Pipe extension can be as long as desired.

## *Or In Groups*



Assembled in a gang-type burner, the No. 2 Blow Torch has proven highly successful for flame cultivation. Units are built specifically for crop for which they are to be used. Unit above was

built for bulb planting. For more information about a type of burner that can mean new customers and large profits to you, contact us at:

***Mutual*** LIQUID GAS EQUIPMENT CO., Inc.  
3600 West Imperial Highway, Inglewood, Calif.



Scaife product investigations are constantly underway at the Mellon Institute of Industrial Research.

## WITH AN EYE TO *your* FUTURE

You get better service from Scaife Cylinders today because of our continuing policy of research. From the very earliest days of LP Gas—Scaife has worked hand in hand with gas distributors, studying transportation problems, investigating ways of improving cylinder design and manufacture. Scaife Cylinders are better today—and will continue to lead in quality and service because of our broad-gauge scientific research program.



# SCAIFE COMPANY

FOUNDED 1892  
Oakmont (Allegheny  
County), Pa.

# QUIZ

## Gas Lighting

• This department is a monthly feature to stimulate thought and to give operators basic industry facts. Clip out for your notebook or file in a standard, 3-ring, loose-leaf binder. Sources of information: *The Bottled Gas Manual, Handbook Butane-Propane Gases.*

### Questions

### Answers

1

When does gas lighting fit into the LP-Gas picture?

Gas lighting has its field as standby for electric lighting and in areas where no electricity is available.

2

Under what circumstances is gas standby justifiable?

In some areas served by rural electrification there are systems dependent upon long transmission lines without local standby plants where outages are frequent. Gas standby lighting can be used to advantage in all night lunch rooms, fire houses, police stations and places where it is important to have continuous light available.

3

Where is the greatest market for gas lighting?

In isolated areas such as desert or mountain cabins, house trailers, construction jobs and night movie sets.

4

What types of gas lighting are available?

Regular Welsbach type mantles and flare lights.

**5**

**What special requirements are necessary for lighting with LP-Gas?**

When purchasing fixtures the Btu of the gas should be specified so the proper orifice size can be furnished.

**6**

**Can gas lights be operated from the same house piping as is used for other appliances?**

Yes. The pressure required for the Welsbach type burners is the same as for regular appliances.

**7**

**Is gas lighting safe?**

Gas lighting is safer than either kerosene or gasoline lamps.

**8**

**Is gas lighting satisfactory?**

A good gas lighting fixture will give off a more pleasant and satisfactory light than an ordinary electric light bulb.

**9**

**What is flare lighting?**

Flare lighting is for use outdoors, the flame being protected by a conical shaped reflector.

**10**

**How can gas lighting be used as an advertising medium for the LP-Gas dealer?**

The installation of a gas light in your window or the erection of a gas street lighting standard in front of your place of business will attract attention and comment and can be operated economically.

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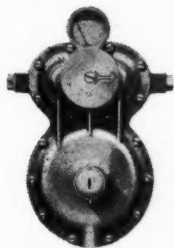
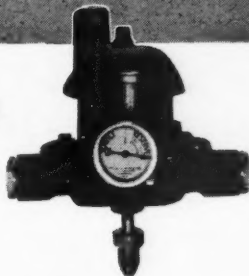
**SUBJECTS TO BE COVERED IN FORTHCOMING ISSUES:**

- Space Heating
- Tools for Your Kit.



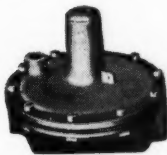
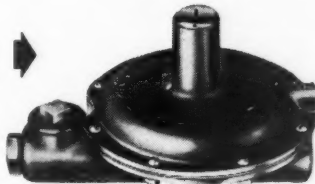
# RELIANCE gives you the REGULATOR designed for your needs !

**"MR"** is a single-stage multiple regulator which reduces high pressures to more efficient use by a secondary regulator. It will draw automatically on *both* cylinders when peak load is required, reverting to the service cylinder alone as the load decreases. This regulator is especially recommended for pilot light equipment and continuous burner service.



**"DBP"** is a two-stage regulator designed for duplex service. In the first regulation stage varying service cylinder pressures are reduced to 15 pounds; in the second stage this 15 pounds is reduced to a uniform 11 inches water column pressure at the outlet. When the service cylinder is empty, the reserve cylinder automatically cuts in, the indicator hand moving from service to reserve to indicate the cylinder in operation.

**"BKR"** is designed as a primary or secondary unit equipped with internal relief valve which can be set to relieve at pressures from 25 to 35 inches water column. Normal outlet pressure of 11" water column is maintained. The valve mechanism is easily accessible through the inspection plug.



**"BP"** is designed for smaller capacities than the "BKR." It is a convenient and economical regulator for the low-volume consumer, and provides precision control of outlet pressures.

*Write for Bulletin 40.*

**AMERICAN  
METER COMPANY**

**RELIANCE  
REGULATORS**

RELIANCE REGULATOR CORPORATION  
1000 MERIDIAN AVENUE, ALHAMBRA, CALIFORNIA

# TO MODERNIZE HOME HEATING PLANTS

*Convert to* - **NATURAL  
MANUFACTURED OR  
L.P.G. GAS**

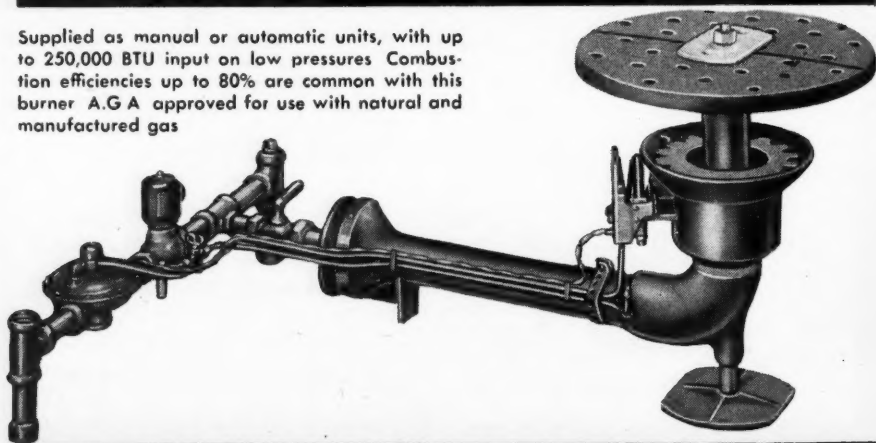
Here is a domestic conversion burner designed to modernize old wood, coal and oil burning domestic heating systems. These burners operate on all commercial gases at standard pressures and give modern gas furnace performance. They have proven particularly efficient in old iron or steel furnaces, cast iron or steel circular boilers, and small cast iron sectional boilers. With materials scarce, don't tear out an old system—modernize it!

## **RANSOME COMPANY**

*Designing and Constructing Engineers*

4030 HOLLIS STREET • EMERYVILLE, CALIFORNIA

Supplied as manual or automatic units, with up to 250,000 BTU input on low pressures Combustion efficiencies up to 80% are common with this burner. A.G.A. approved for use with natural and manufactured gas.



*Ransome*

# Lower Cost Tank Construction Possible Under New ASME Clause

By ALBERT WHITE and CHESTER DURNAL

Butane Equipment Co., Inc., Dallas, Texas

**T**HROUGH increased knowledge, research and development the LP-Gas industry has advanced to its present stage, which is only a stepping stone to its projected future. In the growth of all products the aim is to manufacture at a lower cost to the consumer, at the same time maintaining the reputed quality and efficiency which has characterized that growth.

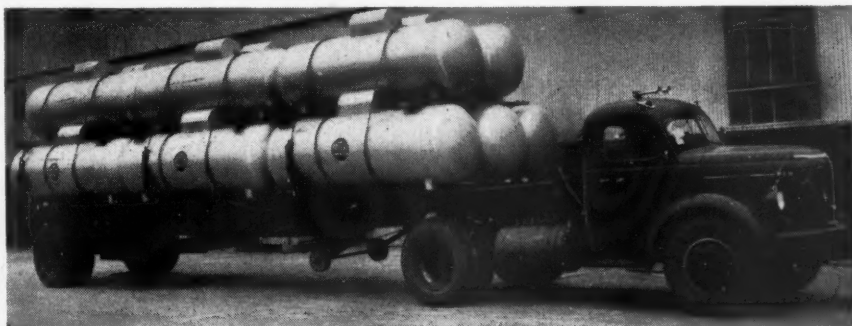
Such is the case with systems now being manufactured under the new Paragraph U-201 of the ASME Code, for they are less expensive to fabricate and yet have lost none of the practicability and efficiency upheld by systems manufactured under the old Paragraph U-69 of the same code.

The U-201 system is practical first and foremost because it undergoes

more rigid shop inspection tests than systems manufactured under the Paragraph U-69. The U-201 system not only receives the hydrostatic pressure and the hammer method of testing as does the U-69 system, but it is further tested by radiographing or by sectioning, a test not required by Paragraph U-69 of the ASME Code.

## Weld Is X-Rayed

The radiograph test gives an X-ray picture of the cross-section of the weld, assuring complete penetration of fusion of the tank shell and the tank head. The sectioning test requires a section to be cut from the long seam or the roundabout seam. An etching solution is then applied to the specimen, which exposes any deficiency which may have occurred



Truck load of 500-gal. aboveground, M-201 ASME systems made by Butane Equipment Co., Inc., Dallas.

in the weld. This test lets us know if we have a solid, uniform weld seam with proper penetration.

The U-69 propane system is designed for a maximum allowable working pressure of 200 lbs. per square inch at 100°F. and subjected to a hammer test of 300 lbs. per square inch, followed by a hydrostatic test of 400 lbs. per square inch. The U-69 designed system has a safety factor of 5 to 1. The U-201 propane system is designed for a maximum allowable working pressure of 200 lbs. per square inch at 100°F. and subjected to a hammer test of 300 lbs. per square inch, followed by a hydrostatic test of 400 lbs. per square inch. The U-201 design assures a safety factor of 4 to 1, the only difference between the systems being 200 lbs. in their respective bursting pressures.

However, except under abnormal conditions such as fire, neither system could possibly reach its bursting pressure of 1000 lbs. and 800 lbs., respectively, or in fact the hydrostatic test of 400 lbs. In the case of these abnormal conditions, the difference of 200 lbs. in their bursting pressures would not be enough to warrant argument. Therefore, the conclusion can be readily drawn that the U-201 designed system has ample safety factors.

The U-201 system was inaugurated when much better and more advanced methods of manufacturing were being practiced than when Paragraph U-69 was in its infancy. More and more state commissions are becoming aware of the outstanding characteristics of the U-201 system, and it is being approved in a greater number of states rapidly.

The fabricators of the systems manufactured under Paragraph U-201 of the ASME Code have reached their objective by producing a system com-

bining safety and efficiency with considerably less expense to the dealer and to the ultimate consumer.

It is our belief that consumers can safeguard against winter shortage or scarcity of butane and propane by having sufficient tank storage to supply their needs for most of the year. The U-201 system is an economically safe answer to the LP-Gas scarcity.

## Corken Expands Manufacturing Facilities in Oklahoma City

Steady growth of the LP-Gas equipment department of Corken's, Oklahoma City, Okla., is responsible for removal of the pipe fabricating operations to new quarters at 10 E. 9th St., where the firm has acquired 2000 sq. ft. of additional floor space.



CHARLES CORKEN

All other operations of the firm will remain at company headquarters, 206 E. Grand Ave., Charles Corken, in charge of the LP-Gas department, announces. Necessity for more room for pump assemblies and additional office space at headquarters makes the expansion of floor space at the new location necessary.

Some new power, pipe threading, cutting and turning machinery has been purchased for installation at the branch. The Corken firm will now have a capacity for turning out each day a complete piping and pumping system for bulk plant loading and unloading from tank cars and transport trucks into storage and for transferring LP-Gas from storage to delivery trucks.

# THE BOTTLED GAS MANUAL

A field guide and text  
book for dealers, sales-  
men and servicemen

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**352 Pages of Answers to Every Day Questions  
About Liquefied Gases, Appliances and Equipment**

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*These Are the Chapter Headings*

What Is Propane?  
The Behavior of Gases  
Heat and Temperature  
What Goes On Within a Propane  
Cylinder?  
The Simple Regulator  
Regulator Manifolds  
Regulations—Equipment Selection  
and Installation  
LP-Gas Pipe Lines  
Testing for Leaks and Adjusting Burners  
Fundamentals of Thermostats  
Pilots and Pilot Controls  
Burner Design and Application

Appliance Conversions  
Facts About Water and Water Heaters  
Types of Water Heaters  
Selecting and Installing the Water Heater  
Competitive Fuels—Wood  
Competitive Fuels—Coal  
Competitive Fuels—Oil  
Competitive Fuels—Electricity—  
Rates and Refrigeration  
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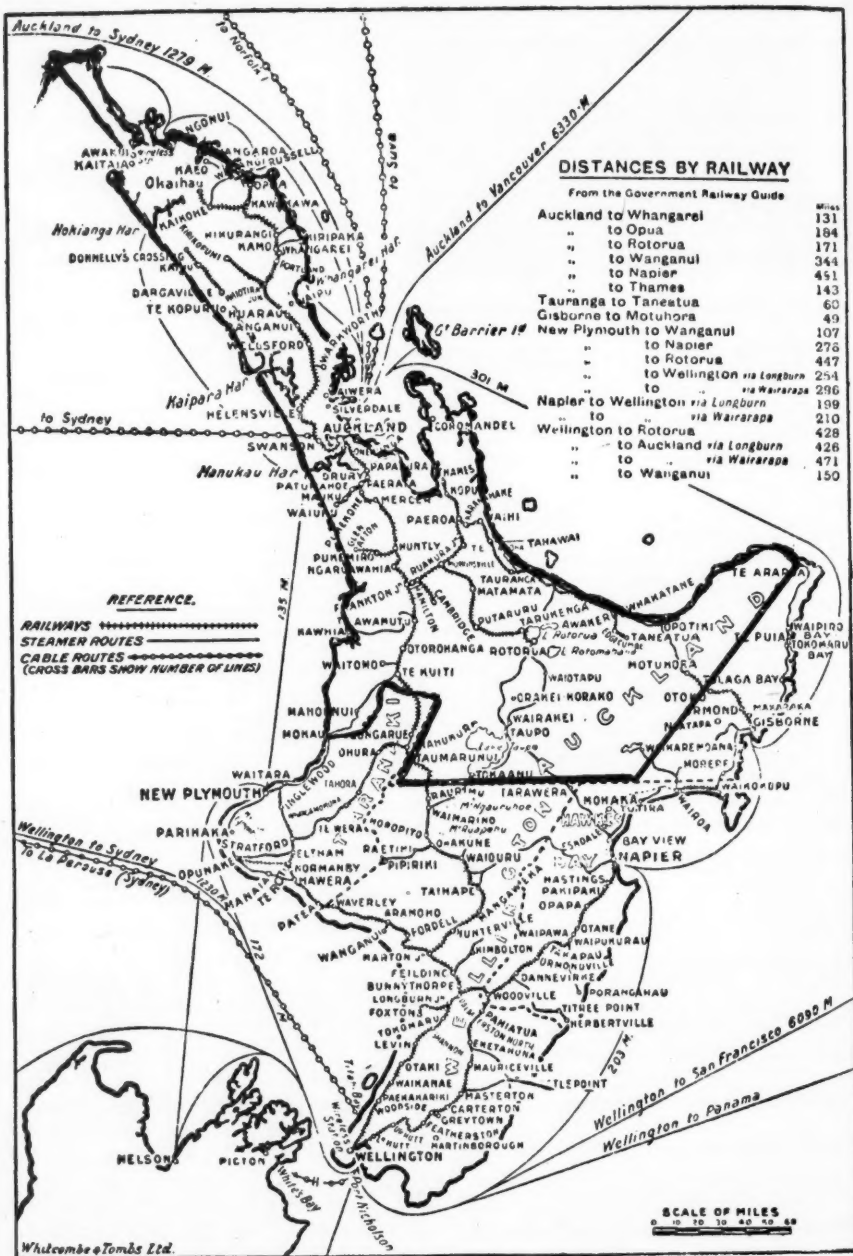
Name .....Position.....

Company.....

Address.....City and State.....

MARCH — 1947

103



North Island, New Zealand, showing sales territory of Auckland Gas Co., Ltd.



## New Zealand Company Operates In Spite of Restrictions and Shortages

**T**HE use of liquefied petroleum gas in foreign countries is spreading rapidly, limited principally by lack of equipment, appliances and adequate supplies of fuel.

Many companies operated even during the war, though restrictions were severe. One of these is the Auckland Gas Co., Ltd., of Auckland, New Zealand.

A letter received from R. Worley, general manager of the company, tells of some of past and current problems. Mr. Worley writes:

"In October, 1937, we entered into an agreement with Bottled Gas Limited of Wellington (the New Zealand agents) for the sale of 'Rockgas' in the Provincial District of Auckland. (See map.)

"Since that time our sales steadily increased to approximately 6000 lbs. per month. With the advent of the war and consequent shipping difficulties, the New Zealand government took over control and restricted the sale to army, navy, air force and permit holders. This control has not yet been lifted and sales at present fluctuate between 500 and 4000 lbs. per month, according to supplies available.

"Prior to the government control this gas was supplied in the following size containers:

- 10 lb. containers for baches, caravans, yachts, etc.
- 20 lbs. for similar uses and also dentists, farmers, army, navy and air force.
- 65 lb. containers for high schools, hospitals, industrial use and air force.

"We have no bulk storage. The gas

is delivered to us in large cylinders, each having a capacity of approximately 210 lbs. We own 158 of these cylinders and decant the gas from them into smaller cylinders to supply the needs of our consumers. When empty, these large cylinders are forwarded to America for refill.

"Our service includes all types of uses beyond the town gas and electricity mains, e.g., residences, hotels, schools, yachts, hospitals, fishing boats, laboratories, factories, printers, contractors, etc.

"We sell all kinds of appliances suitable for lighting, cooking and heating, direct to the consumer, and keep in stock so far as present import restrictions will allow, a varied selection including all sizes of containers, regulators, valves, etc.

"Prior to the war we advertised in the newspapers and suitable periodicals, but at the present time we content ourselves in supplying descriptive literature to those interested."

Other principal officers of the company are C. J. Dougherty, chief engineer, and J. N. Woollams, secretary.

### 10,000-Gal. Bulk Station For Cleveland, Texas

The C. F. Thomas Hardware and Butane Gas Co., Cleveland, Texas, has recently installed a 10,000-gal. butane-propane bulk storage station. It is located between Cleveland and Conroe on Highway 105.

In addition to drawing from it to serve domestic customers in the company's territory, many drilling rigs will be supplied with their fuel.

## Steam Cleaning Unit Aids Oil Drillers

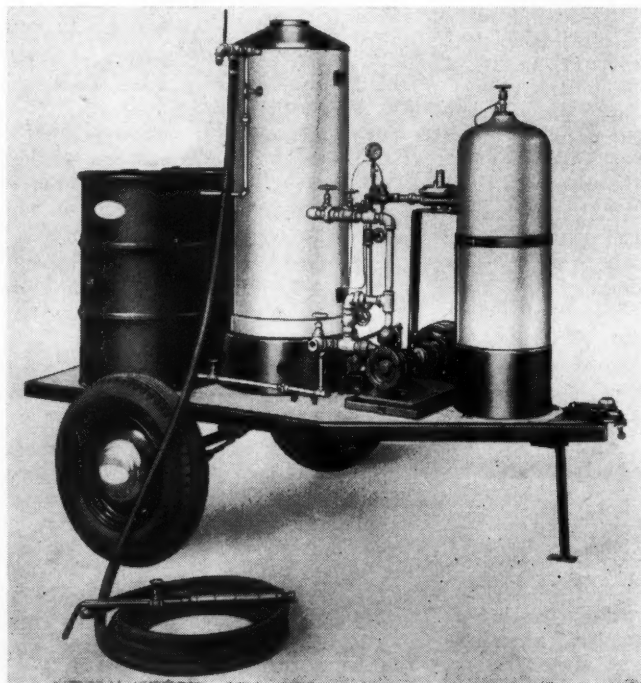
By O. D. HALL

**L**IQUEFIED petroleum gas has found expanded usefulness, from scalding hogs on the farm to heating water for baptisteries in churches, through equipment recently adapted by The Ewing Manufacturing Co., Oklahoma City.

For many years the firm has been manufacturing automatic steam cleaners which utilize natural and artificial gas for fuel. Realizing a need for extending their services into rural areas beyond the reach of existing pipe lines, Fred T. Ewing, Sr., president, and his son, Hal Ewing, vice president, about 12 years ago began a search for LP-Gas burners which

could be adapted for heating units under their equipment. They failed to find LP-Gas burners on the market which combined the degree of compactness and heating capacity they required.

After months of experimenting these men invented and patented an LP-Gas burner which could be fitted inside a cylindrical steam generator with shell diameter as small as 12 inches and yet could develop up to 300,000 Btu's heating capacity. By joining these smaller burners the



▲  
Automatic steam cleaning unit mounted on a trailer. This serves many industries where portable cleaning equipment is required.  
▼

firm can now manufacture them with heating capacity up to 750,000 Btu's, the latter for installation in large automatic steam cleaning equipment.

A portable model which can be mounted on a small trailer or on skids, is especially useful in cleaning oil field drilling and pumping rigs. These models can be custom built to suit requirements of the user and quickly transported to the oil fields for temporary or permanent use.

### Portable Units Are Complete

The portable units, varying with requirements, consist of a steam generator connected to an LP-Gas cylinder by the required pipes, safety and cut-off valves, thermostatic controls and regulator. All-steel cleaning fluid and water containers also are included. Twenty-seven feet of  $\frac{3}{4}$ -inch hose carry the cleaning mixture and 25 feet of  $\frac{3}{4}$ -inch steam hose carry the steam through a special nozzle under pressure to the machinery or parts to be cleaned.

Where water pressure is below 60 pounds a special Ewing pressure pump ranging from one-half to one horsepower, is installed on the trailer or skid.

Coil consisting of from 100 to 230 feet of special steel tubing is fitted inside the cylindrical steam generators which range in shell diameters from 12 to 20 inches. A larger cylindrical generator, 50 inches by 26 inches, and standing 56 inches high, operates on 125 pounds water pressure and carries 600 feet of coil. This unit is particularly adapted for larger steam generating requirements, such as in laundries and in oil fields for steaming paraffin out of tubing.

The Ewing steam generators also are being used for cleaning in garages and filling stations, for producing hot water and steam in laundries, dairies, poultry and produce houses. One large

food processing plant in Denver has 11 of the compressors installed in cooking and preserving jellies, jams and other fruits.

Besides the Ewings, other company officers include: Fred Thomas, Jr., secretary-treasurer; Pete Baird, advertising manager, and John Arbuckle, sales manager.

The company, about a year ago, moved from its old location into a new \$50,000 office and shop building located at 2545 N. W. 10th St. It employs 32 people.

### Europe Wants LP-Gas— When It Can Get It

The British Isles and European countries are definitely interested in liquefied petroleum gas but efforts to expand operations are retarded by shortages of cylinders and appliances and, in many instances, by the dollar exchange rate which puts foreign countries at a disadvantage in buying American equipment.

This is a report brought back to this country by G. L. Brennan, manager of the LP-Gas Division of the Warren Petroleum Corp. Last fall Mr. Brennan, in company with Sam I. Hulse, vice president of the company, went abroad to study the outlook for foreign marketing possibilities.

While some expansion occurred in England during the war because of the shortage of other types of cooking fuels, many European countries showed a great falling off of use because supplies were not available.



G. L. BRENNAN

# How Revised Code No. 58 Differs From Old NBFU Rules

By HAROLD W. WICKSTROM  
Technical Editor BUTANE-PROPANE News

**T**HE latest revised issue of Pamphlet No. 58, Standards of the National Board of Fire Underwriters for liquefied petroleum gases, is now available and contains a number of changes from the edition of 1940.

It is important that all LP-Gas operators acquaint themselves with the contents of this new pamphlet as it has been put together by men in the industry who are conscientiously endeavoring to guide the less experienced operators and users of LP-Gas in safe methods of handling. It is not issued with the thought of harassing the industry but to provide a standard of construction and operation that will benefit all operators and users of LP-Gas.

The pamphlet has been reviewed and compared with the older issue and a brief summary of the more important changes is presented in this article.

The new edition is composed of the basic rules and five divisions. One entirely new division has been

added which provides for methods of handling and storing containers by resellers, retailers and users that require a stock of filled and empty containers on hand.

## Systems.

In the application of rules the term "system" is defined to mean "an assembly of equipment consisting essentially of the container or containers, major devices such as vaporizers, carburetors, relief valves, excess flow valves, regulators, etc. and the interconnecting piping."

## Basic Rules.

Odorization—Changed to allow elimination of odorant if gas is to be used in processes odorant is harmful to or of no use as a warning agent.

## Requirement for Construction and Original Test of Containers.

Specifically eliminates the construction of containers under ASME Par. 70.

## Location of Containers and Regulating Equipment.

In addition to former requirements, specifies distances between above-ground containers.

Requires special approval for location of bulk storage in heavily populated or congested areas by inspection department having jurisdiction.

Requires location of tank used for transfer of liquid to portable tanks, skid tanks or similar applications to be located 50 ft. from nearest building.



H. W. WICKSTROM

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3



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... Visible, fast, finger-tip adjustment makes broiling easier than frying.



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3700 East Olympic Blvd., Los Angeles 23, Calif.

### **Container Valves and Accessories.**

Requires that excess flow valves close at the manufacturer's rated flow, and lines beyond excess flow valves must have greater capacity than excess flow valve.

### **Piping, Tubing and Fittings**

Prohibits use of aluminum tubing in exterior locations or where it passes through masonry or plaster walls or insulation.

Considerable detailed requirements added to the use of flexible tubing.

Requires testing of piping at not less than working pressure.

Removes requirement of depth of underground piping.

### **Safety Valves.**

Safety valve requirements have been entirely revised, requiring new method of rating and marking. Provision for relief pressure range for ASME U200, U201 tanks has been provided.

This is one of the most important changes in the Code and should be studied by all operators to insure compliance on future installations.

Appendixes A, B and C relating to safety valve sizes have all been changed, the new requirements being based on discharge capacity rather than discharge area of valves. It is entirely possible that this change may make many safety valves obsolete.

### **Vaporizer and Housing.**

Requires new method of marking vaporizers, and rules on location and installation considerably reworded.

### **Filling Densities.**

Table of filling densities revised, allowing about 3% greater capacity for containers over 1200 gallons but requirements for transport units under ICC jurisdiction remain the same.

### **Transfer of Liquids.**

Makes mandatory requirement that

at least one attendant remain close to transfer connections from time connection is made until disconnected.

Provides that containers shall be filled only upon authorization of the owner.

### **Liquid Level Gauging Devices.**

Requires all gauging devices to be so arranged that maximum liquid level can readily be determined.

Gallonge capacity of container to be marked on name plate of system or gauging device.

Prohibits use of gauge glasses of columnar type excepting in filling plants and then requires special installation.

### **Division I.**

Cylinder systems (bottled gas) applies specifically to systems using ICC containers.

#### **System.**

Defines system to include the container base or bracket, containers, container valves, connectors, manifold valve assembly, regulators and relief valves.

#### **Use of Gas for Industrial Applications Where Oxygen is Not Required.**

Rules for use, location and storage of portable cylinders for use in industrial plants are provided.

### **Division II.**

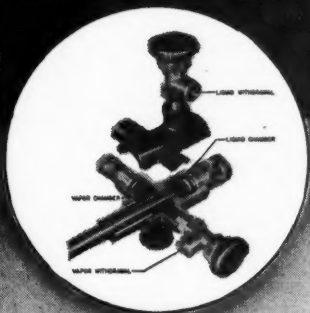
Applies to all systems using other than ICC containers.

#### **Container Valves and Accessories, Filler Pipes and Discharge Pipes.**

Requires either double back pressure check valves, combination of back pressure check valve and excess flow valve or combination of positive shut-off and back pressure check or excess flow valve on filling connections of containers.

Requirements for excess flow valves on withdrawal service lines changed



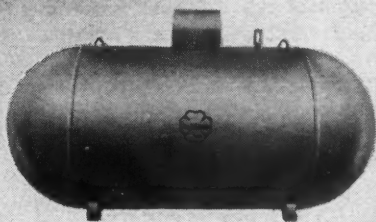


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- COMMERCIAL AND INDUSTRIAL TANKS



Above and Below ground propane systems fabricated with hemispherical heads afford greater volume at less weight. Prices, delivery, and specifications on sizes 550 gallons to 1,000 gallons given upon request.

- STORAGE TANKS



At McNamar large Storage Tanks of 18,000 gallon and 30,000 gallon capacities are made according to the U-69 ASME Code of Construction. All vessels are subject to the approval of the National Board of Boiler Inspectors.

*Write for Booklet "LP-Gas Data."*

# McNamar Boiler & Tank Co.

Box 868

Tulsa, Okla.

to allow use of shut-off valve and orifices or direct connection to reducing back pressure regulator on tanks of less than 1200 gal. capacity.

On tanks over 1200 gal. capacity, all valved outlets must be labelled.

#### **Safety Devices.**

Considerable change in wording and some changes in requirements.

#### **Designed Working Pressure and Classification of Storage Containers.**

Type 80 containers will not be authorized after Dec. 31, 1947.

Provision is made for design working pressure of ASME Code U200 and U201 tanks.

#### **Installation of Storage Containers.**

Requirement for use of wrapping material over protective coating on underground tanks has been eliminated.

#### **Installations.**

Requires instruction for operation be furnished to personnel responsible for operation of systems that require operation by user.

#### **Division III.**

Applies specifically to containers and equipment mounted on trucks, trailers, etc. for transportation of LP-Gas.

Containers and equipment in addition to compliance with these Standards should also comply with ICC or other regulatory bodies in authority over transportation.

#### **Design Working Pressure and Classification of Containers.**

Similar changes have been made in truck tank classifications as for storage tanks.

Requires all valves be protected from mechanical injury due to collision, over-turn or other emergency.

Allows for use of quick closing internal valves in line of excess flow valves on outlet line.

#### **Safety Devices.**

Requires installation of excess flow valve on pump discharge if delivery point is more than 20 ft. from truck.

The use of skid tanks for regular transportation service is prohibited.

Truck muffler and exhaust pipe are to be located as far as practical from pumps, tank piping or valves.

#### **Division IV.**

Applies specifically to containers and equipment to use LP-Gas as a motor fuel for trucks, busses, tractors and other self-propelled equipment.

Very few changes have been made to this section with the exception of the requirements for filling connections and the classification of containers which follow in line with the requirements of the previous sections.

#### **Division V.**

A new division has been added to the Standards to provide for the handling of containers when stored on the premises of the user or reseller when not in use.

#### **Storage on Premises of User.**

Limits storage of cylinders inside a building also used for other purposes to less than 2000 cu. ft. of gas. Requires storage of greater amount outside or in separate room or building.

Requires special construction of storage rooms and installation of fire doors.

#### **Storage for Resale.**

Prohibits storage of cylinders adjacent to schools, churches, hospitals, athletic fields or points of public gatherings.

Where storage exceeds 10,000 pounds it must be located at least 25 feet from important buildings or public highways or streets.

Specifies that containers which re-

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PATRICK W. McDONOUGH, President  
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quire valve protecting caps, such caps shall be in place hand tight while in storage.

Prohibits storage of containers full or empty inside a store or place of business frequented by the public. Cylinders used for display purposes must be gas free.

**Appendix D—Method of Calculating Maximum Volume of LP-Gas Which Can be Placed in a Container For Which Length of Dip Tube is Set.**

Appendix D has been revised which results in slightly different filling allowances from the previous Standards.

This summary of the most important changes in the Standards does not cover every item or all changes in wording. It is presented to give the LP-Gas operators some idea of the scope of the revision of the Standards.

## **Selling 187 Systems in Month Sets Record for Oklahoma Firm**

In recognition for their fine record of sales during October of last year, The American Butane and Propane Gas Co., Oklahoma City, provided a banquet and complimentary tickets to a leading opera production to 12 company salesmen and their wives.

The dinner was staged in the Oklahoma Club. In the center background of the accompanying picture, at the head table, is J. L. Grigsby, president of the company, and his wife, seated at his right, Sam Grasinger, sales manager for the firm, and his wife on his left, are at the extreme left.

These progressive young salesmen, working under a well-planned sales program, arose each week-day morning with the birds and fanned out into the rural areas surrounding Oklahoma City, and sold 183 domestic LP-Gas systems from Oct. 1 to Nov. 1.



J. L. Grigsby celebrates successful sales campaign by providing banquet for his salesmen and their wives.

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### For Dependability— It's Garland!

✓ Quality built throughout. Designed by engineers who have made a lifetime study of volume cooking requirements.

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# CURRENT READING

● Reviews of new books, pamphlets and articles published in recent magazines of interest to technicians and executives in the liquefied petroleum gas industry. Those interested in reading any complete article or book should write to the publications named.

Scientific Instruments—By Herbert J. Cooper. This new book, containing 304 pages, was prepared for everyone who uses scientific instruments. It discusses a wide range of instruments designed for making physical measurements in the laboratory, in the field, in industry and in commerce. Much space is devoted to the discussion of the principles upon which instruments are based and to methods of measurement.

Diagrams and photographs to facilitate the understanding of the mechanism and use of the most up-to-date and complicated instruments appear throughout the book.

Fifteen specialists and many large firms and organizations contributed to this comprehensive volume. Published by Chemical Publishing Co., Inc., 26 Court St., Dept. W, Brooklyn 2, New York. Price, \$6.

Design of Concrete Piers for Horizontal Storage Tanks—O. L. Garrettson and H. R. Zeigler. "Petroleum Refiner," Sept., 1946, pp. 131-133.

Friction Charts for Gases Including Correction for Temperature, Viscosity and Pipe Roughness—R. D. Madison and W. R. Elliot. "Heating, Piping and Air Conditioning," Oct., 1946, pp.

107-112. The solution of problems involving fluid flow and friction will be simplified by means of the charts presented in this paper. Methods of making corrections for temperature, viscosity and pipe roughness are explained and the use of the charts is illustrated by solution of typical problems.

Safety in Transporting Flammable Chemicals—C. L. Jones. "Chemical Engineering," Oct., 1946, p. 103. One of the hazards of the chemical industry is the transportation of flammables over the highway. This article tells how the Hercules Powder Co. has met the problem. The protective devices on its nitrocellulosic trucks are good medicine for any flammable product.

Metco Metallizing Handbook—This book contains the latest and most complete collection of technical and operating data on the metallizing process. It is the fourth edition.

In addition to the latest data on preparation of surface, metallizing technique and finishing procedure, complete information is given on corrosion resistance, specific gravity, hardness, bond strength, tensile strength and shrinkage.

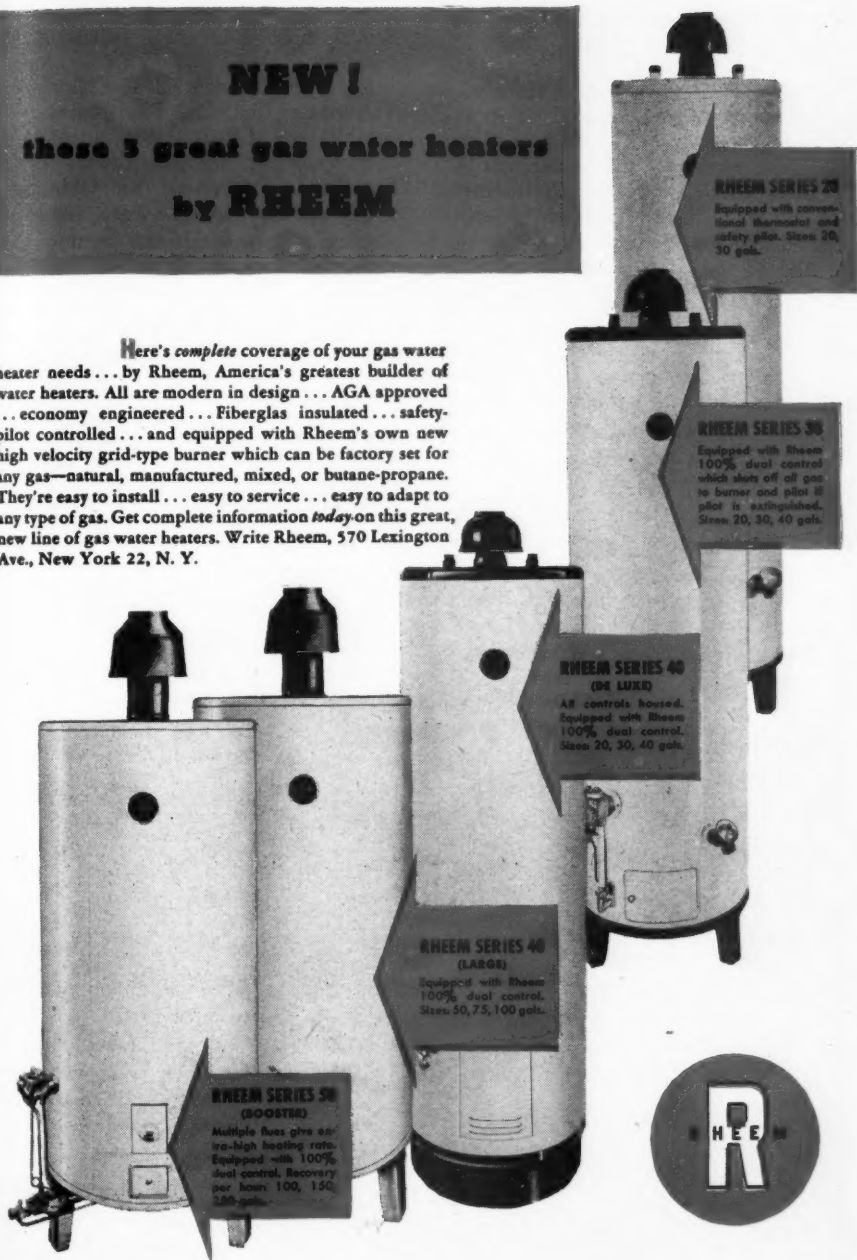
It is liberally illustrated with pictures, drawings, diagrams, charts and graphs. In handbook form, presents both practical and technical aspects of the metallizing process.

Published by the Metallizing Engineering Co., Inc., Long Island 1, New York. Price, \$2.



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Here's complete coverage of your gas water heater needs... by Rheem, America's greatest builder of water heaters. All are modern in design... AGA approved... economy engineered... Fiberglas insulated... safety-pilot controlled... and equipped with Rheem's own new high velocity grid-type burner which can be factory set for any gas—natural, manufactured, mixed, or butane-propane. They're easy to install... easy to service... easy to adapt to any type of gas. Get complete information *today* on this great, new line of gas water heaters. Write Rheem, 570 Lexington Ave., New York 22, N. Y.



## Lewis Hughes Establishes Two Branch Oklahoma Stores

Looking forward to the time when all LP-Gas appliances and equipment will be available in quantities, Lewis Hughes, owner of the Oklahoma Automatic Gas Co., 515 South Robinson, Oklahoma City, has recently established two branch dealership stores.

One of these, on Highway 81 near the south edge of Chickasha, Okla., is located in a display room 30x50 feet and a garage. As large a stock of LP-Gas equipment and appliances as can be obtained is maintained there.

The other recently located branch store is at the southwestern city limits of Hobart, Okla., with Jim Boyd in charge. In both Chickasha and Hobart, truck delivery service, utilizing 1000-gallon tanks, is maintained by the firm. Complete kitchen cabinet set-ups for assembly above LP-Gas ranges, refrigerators and other kitch-

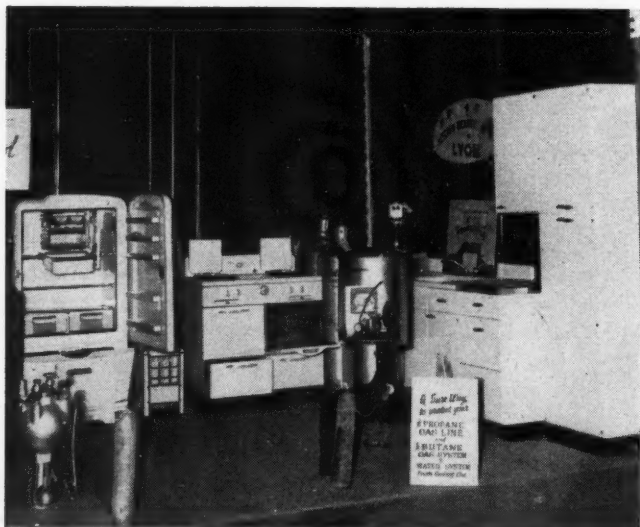
en appliances, are featured at the headquarters and other stores of the firm.

Each year since 1939 the Oklahoma Automatic Gas Co. has maintained exhibits of LP-Gas appliances and equipment at the Oklahoma State Fair and Exposition at Oklahoma City. These displays were kept up consistently during the war, even though some of the equipment and merchandise displayed was very scarce.

## Union Oil Company Increases Montana Refining Capacities

The Union Oil Co. has recently completed a \$200,000 addition to its Cutbank, Mont., refining capacity for the manufacture of liquefied petroleum gas.

The increased fuel volume will be used for distribution to Union Oil customers in Northern and Northwestern states.



The exhibit of the Oklahoma Automatic Gas Co. at the Oklahoma State Fair. This firm has exhibited annually since 1939.

# BUEHLER

## Propane SPHERES



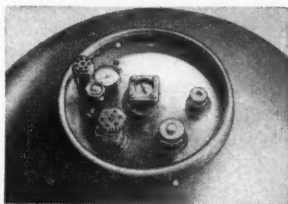
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# NEW PRODUCTS

## Soldering Flux

Lake Chemical Co., 607 N. Western Ave., Chicago 12.

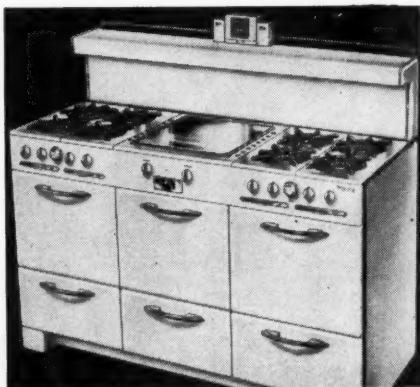
**Model: Flux-Stik.**

**Application:** When applied, it prepares a free, clean and better surface for solder to alloy itself firmly with the metal.

**Description:** In handy stick form, the flux is non-acid, yet thoroughly and quickly dissolves the oxides of metals. Inasmuch as it is non-running, when heat is applied the flux will just cover the immediate vicinity of the soldering joint. Applicable either to hot or cold metal, the flux permits the solder to flow easily and smoothly and to adhere firmly to the metal. According to the manufacturer, it eliminates costly repairs by insuring perfect joints and eliminates the frequent necessity of having to repeat

the soldering process when joints do not hold.

Ideal for overhead, inaccessible and out-of-the-way soldering locations, it can be used for sweat joints of copper or brass tubing, manifolds, traps, elbows, piping, sheet metal, cabinet work, refrigeration and heating coils.



## "Giant" Range

Western Stove Co., 8536 Hays St., Culver City, Calif.

**Model: "Town and Country."**

**Application:** The large size of this new gas range makes it suitable for cooking requirements of large families, ranches and banquets and provides more cooking facilities than two smaller type ranges.

**Description:** First of its kind in the country, according to the manufacturer, the new range is 65 inches in length, with eight burners and a large

griddle on top, two large ovens, a "Broyl-oven"—designed for broiling large pieces of meat or for barbecuing—and two separate broilers. A plate-warming shelf extends the full length of the top, while the range is fully automatic, with clock control, concealed lighting for the cooking top, and a utility drawer.

### Test Plug

Mechanical Products Corp., 168 N. Ogden Ave., Chicago 7.

Model: "Hydro-Matic" Self-Sealing Test Plug.

**Application:** For use in closing openings in tanks, boilers and other vessels requiring hydrostatic or pneumatic internal pressure tests. The test plug is available from stock for standard pipe openings from  $\frac{1}{2}$ " to 2" sizes and are adaptable to any type of spudded, flanged or drawn open-

ings, either threaded or plain. They are suitable for testing pressures up to 500 psi.

**Description:** An oversized tapered head centers itself against the inside edge of the tank opening and sets up a positive resistance to the pull exerted within the cylinder when forcing the seal against its seat. The self-sealing test plugs are properly proportioned with ample overload safety factors and, according to the manufacturer, require a very short time to insert and remove and eliminate losses frequently experienced when removing plugs which have "frozen" in position.

### Thermovalve

General Controls Co., 801 Allen Ave., Glendale, Calif.

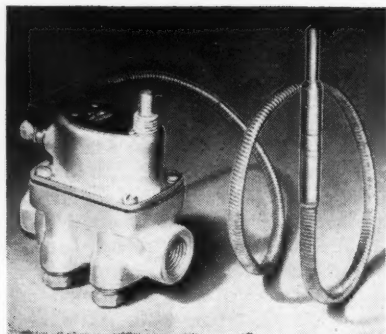
Model: MR-2 Thermovalve.

**Application:** Designed to provide automatic safety pilot control of the fuel to the main burner of a gas-fired appliance.

**Description:** A thermocouple placed in the pilot flame generates the current required to hold the valve in the open position. Failure of the pilot flame stops the generation of current, closing the valve. Once the valve has closed it must be manually opened. A position indicator flag is located beneath a glass window on the valve cover near the reset button which gives a visual check to show if valve seat is open or closed. Pilot gas take-offs are provided both ahead and after the main valve seat allowing 100% shut-off, or main burner shut-off, as desired.

A single thermocouple enclosed in a stainless steel cover and placed in the pilot flame is heated by the flame and produces a small electrical current which energizes the electro-magnet in the thermovalve. The magnet is





not capable of actuating the valve to the open position but will hold the armature in contact with it once it has been moved there manually. This is done by pressing the reset button.

The armature and main valve seat are connected to the valve rocker in such a way that pressing the reset button brings the armature in contact with the magnet poles and also opens the valve seat, allowing gas to flow through the valve.

Thus, as long as the pilot burner remains lighted and heat is applied to the thermocouple the valve will remain in the open position. Should the pilot light become extinguished and the thermocouple allowed to cool, the electrical current would cease.

With no current flowing through the magnet coil, the armature would be released, allowing spring to close the main valve, shutting off the flow of gas to the main burner. Since the valve is closed by spring force, it will operate in any position.

## Equipment Catalog

The Weatherhead Co., Cleveland, Ohio, has recently issued a 52-page loose leaf catalog listing the various liquefied petroleum gas equipment manufactured and for sale by that company.

The catalog is indexed under headings such as shut-off valves, check valves, relief valves, globe and angle valves, gauges, regulators, multiple heads, multiple head assemblies, manifolds, pigtails, fittings, and miscellaneous equipment.

Illustrations of each product are contained in the catalog as well as cross section dimensional drawings which will be helpful not only to operating departments, but to purchasing and engineering departments, as well.

The catalog is available upon request to the Weatherhead Co., 300 E. 131st St., Cleveland 8.

## Regulator Bulletin

The new line of Rockwell-Emco gas appliance regulators is cataloged in a 12 page bulletin just issued by the Pittsburgh Equitable Meter Division of Rockwell Manufacturing Co.

The three important advantages of this design — streamlined appearance, light weight and improved performance—are explained by detailed drawings and cross-sectioned photographs with explanatory text. A discussion of aluminum alloy pressure castings and their application to regulator construction is covered in a four page section. Complete technical data on sizes, capacities and dimensions are tabulated. To obtain this new literature, write to the above company, Pittsburgh 8, Pa. Ask for bulletin 1136.

## New Firm Enters Business In Plattsburg, Mo.

The Plattsburg LP-Gas & Appliance Co. has been incorporated by W. V., E. S. and W. M. Branson with O. D. Wilson and J. A. Strasser to operate a liquefied petroleum gas and appliance business in Plattsburg, Mo.





NOW IS THE TIME TO LINE UP WITH THE LEADER

## **LPG CONTROL EQUIPMENT**

Leadership by Fisher can be explained quite simply—for it's based on quality of manufacture, sound design, and friendly cooperation with our customers.

Right from the beginning of the LPG industry—in fact Fisher produced the first successful LPG regulator, using composition diaphragm and valve disc—Fisher's assignment has been the development of better Butane-Propane gas regulators.

These are the reasons Fisher is the preferred LPG Control Equipment and why hundreds of thousands of Fisher LPG regulators are in use throughout the world.

Yes—for the best and latest in design, look to Fisher, the world's largest exclusive manufacturers of pressure control equipment.

## **FISHER GOVERNOR COMPANY**

993 Fisher Building, Marshalltown, Iowa

Eastern Office:

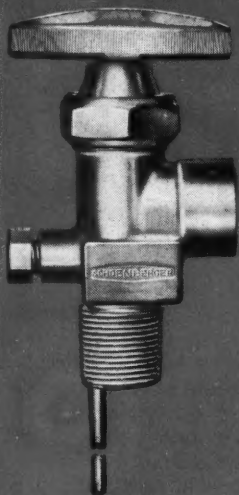
212 E. State St., Westport, Conn.

Western Office:

2334 E. 8th St., Los Angeles 21, Cal.

# SCHOENBERGER

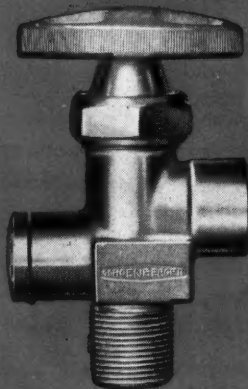
## DIAPHRAGM PACKLESS CYLINDER VALVES



Write for  
Bulletin  
P. B. 11

Wherever used—with cylinder, bulk systems or automotive installations, Schoenberger Valves have won full acceptance. New users are constantly being added to the already large number of enthusiastic operators.

Exclusive internal construction has eliminated the difficulties previously experienced with these types of valves and has proved beyond question the need for this design. Specify Schoenberger Valves for long, trouble free service.

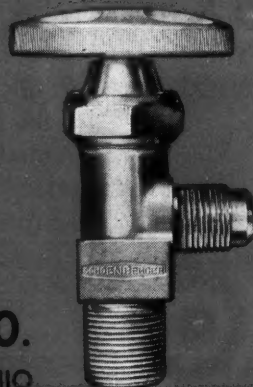


The rugged construction of Schoenberger Valves assures long and satisfactory service. It is manufactured in a variety of types to meet the needs of producers and distributors of high pressure fuel gases.

*"Listed Under Reexamination Service  
of Underwriter's Laboratories, Inc."*

### The W. J. SHOENBERGER CO.

6810 HARVARD AVE. CLEVELAND 5, OHIO



## Sectional Meetings in 10 States Will Be Held by NBPA

**D**ATES and locations of sectional meetings of the National Butane-Propane Association have recently been announced by E. E. Hadlick, executive vice president.

In all, meetings will be held in 10 cities between March 28 and April 30. A feature of every meeting will be a safety demonstration made by the U. S. Bureau of Mines under the direction of G. M. Kintz and H. F. Browne.

The schedule of forthcoming meetings follows:

Denver, Colo., Cosmopolitan, Mar. 28, 2:00 P.M.

Omaha, Neb., Fontenelle, Mar. 31, 1:30 P.M.

Des Moines, Iowa, Fort Des Moines, Apr. 2, 2:00 P.M.

Peoria, Ill., Jefferson, Apr. 4, 2:00 P.M.

Kansas City, Mo., President, Apr. 8, 2:00 P.M.

Wichita, Kan., Allis, Apr. 9, 2:30 P.M.

Tulsa, Okla., Mayo, Apr. 10, 2:00 P.M.

Atlanta, Ga., Biltmore, Apr. 22, 2:00 P.M.



The National Butane-Propane Association has increased its sectional divisions from 7 to the 10 shown in this map.

Boca Raton, Fla., Boca Raton Club, Apr. 24.

(This is a state meeting of Florida LP-Gas Association.)

New Orleans, La., Roosevelt, Apr. 29, 2:00 P.M.

Alexandria, La., Bentley, Apr. 30, 2:00 P.M.

As a result of a meeting by mail on Jan. 20, NBPA now has 10 districts instead of seven. These districts are shown on the accompanying map.

At the time of the next election each district shall have a director who will automatically become a vice president when elected.

### **Anco Mfg. Co. Will Give Complete LP-Gas Service**

The Anco Manufacturing and Supply Co., newly incorporated firm at Tulsa, Okla., announces a complete service for the supply and marketing of equipment and appliances for the LP-Gas industry, according to Paul R. Smith, president of the new firm.

All manner of equipment and appliances, as well as engineering services, will be offered to dealers, manufacturers, and municipalities throughout this nation and abroad.

Other officials of the new company include: Thomas C. Shaw, vice president; A. V. McMurray, sales manager; W. L. Abbott, assistant sales manager; and Marvin H. Kelly, chief engineer.

The aims of the new supply company, according to Mr. Smith, will be to offer to the industry a single source of supply for every type of appliance and all equipment used with propane or butane fuel; a complete engineering service—either advisory, or complete designing and fabrication of anything from single pieces of



PAUL R. SMITH



THOS. C. SHAW

equipment to complete bulk plants; a complete line of reliable supplies and equipment backed by national advertising and promotion, and an outlet for quality products needing national representation, giving merchandising methods which will lower distribution and sales costs.

Headquarters for Anco will be in the Atlas Life Bldg., Tulsa. Branch offices have been established in Chicago, St. Louis, Houston, Minneapolis, and Cleveland. Other branch offices will be arranged.

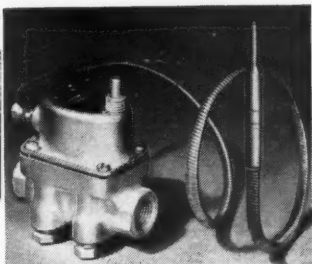
Service of the new company will be the installation of complete gas systems for municipalities ranging up to 5000 population.

### **P. A. Smith, Pine Bluff, Ark., Not Credited for Installation**

In the December issue of BUTANE-PROPANE News (Page 26) appeared a picture of a sweet potato dehydration plant which was erroneously credited to W. B. Linder, of the Arkansas Butane Gas Co., Little Rock.

Actually, the photograph was of an installation made by the P. A. Smith Butane Gas Co., Pine Bluff, Ark. Mr. Linder made one with exactly the same kind of equipment.

# New MR-2 SAFETY THERMOPILOT



**T**HIS new electro magnetic thermopilot assures unfailing safety in gas control applications. Used on space and unit heaters, central and floor furnaces, water and range heaters, hot water and steam boilers. Handles manufactured, natural or LP-Gases.

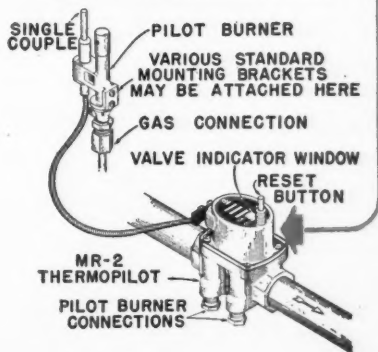
On the installation diagram, the new MR-2 valve and the new 26-R Pilot Burner are used for out-pilot safety control. No outside current is required. Valve holds open until released by pilot-flame failure. 100% gas shut-off will be maintained until pilot light is reignited and valve manually reset by push button.

For further information, contact your nearest factory branch or distributor, or write for Catalog 52-B and Manual FI-101.

## Check these outstanding features:

- ✓ Streamlined design.
- ✓ High-flow capacities.
- ✓ Visual valve position indicator.
- ✓ Design simplicity.
- ✓ Sealed electro magnetic assembly.
- ✓ Heavy duty 5/16 round thermocouple.
- ✓ Flexible armored cable leads.

## MR-2 INSTALLATION



**GENERAL**  
801 ALLEN AVENUE



**CONTROLS**  
GLENDALE 1, CALIF. 4-1

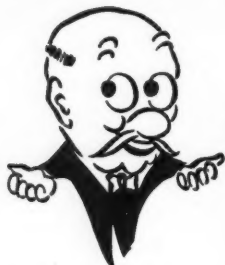
FACTORY BRANCHES: Philadelphia, Atlanta, Boston, Chicago, Dallas, Kansas City, New York, Denver, Detroit, Cleveland, Pittsburgh, Houston, Seattle, San Francisco. Distributors in Principal Cities.

# GAS EQUIPMENT COMPANY, Inc.

P. O. BOX 566

2620 South Ervay « DALLAS, TEXAS

GAS EQUIPMENT SUPPLY CO.



DISTRIBUTORS FOR

The BASTIAN-BLESSING Company

# REGO

LP GAS EQUIPMENT

★ ★ ★ ★ ★

We in turn  
Salute the  
Southern Gas  
Equipment Co.

See Page 26

★ ★ ★ ★ ★

## BASTIAN-BLESSING CO.

Pioneer and Leader

RegO, the time-tested line with years of outstanding service in the LP-Gas field, offers a complete selection of equipment, from the largest railroad tank car valve to the smallest fitting. RegO designed precision equipment will give long, dependable, trouble-free performance in any application. Accept no substitute for REGO quality!





# THE TRADE

An expansion program in the engineering department of the **Blackmer Pump Co.**, Grand Rapids, Mich., has been announced by B. L. Gordon, president of the company.

The new program will provide for more extensive development work on the Blackmer line of rotary pumps to meet the changing requirements of industrial pump users.

John B. Caldwell, who has been identified with the development of pumps and various types of hydraulic equipment, has been named chief engineer, and L. R. DeWolf and V. A. Brunson have been appointed senior engineers.

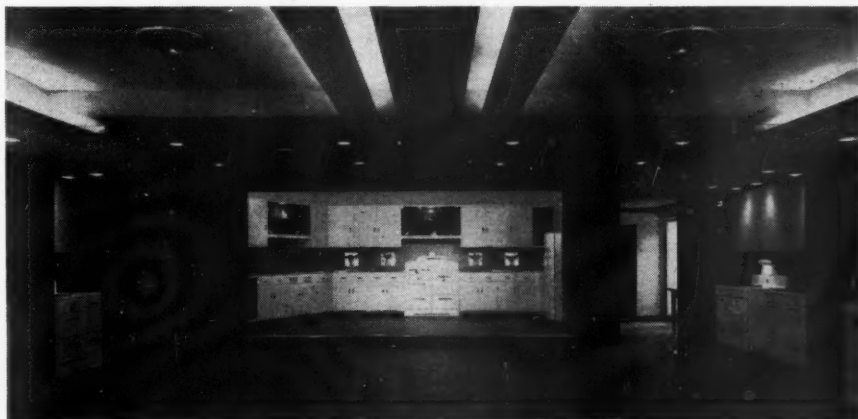
For a proper setting to present and demonstrate Universal Gas Ranges, **Cribben and Sexton Co.** has recently completed in a building adjacent to their Chicago factory an elaborate

display room equipped to feed 100 or seat 125 persons at one time.

Called the "Blue Flame" room, it features a "New Freedom" gas kitchen on the stage. Bordering the auditorium are the various models of "Universal" gas ranges placed in front of a background of fluted glass panels with indirect lighting.

Trucking facilities are almost as difficult to obtain these days as new stoves. But a man who can get a carload of new stoves can get trucking done as well.

When a carload of Kalamazoo gas ranges arrived for the Gas and Electric Sales Co. of Decatur, Ill., the owner, Erwin Fiesler, turned to farm customers who awaited stoves. Customers from eight townships came to his rescue, drove trucks up to the



Modern display room for visitors to Cribben and Sexton's factory, Chicago.



Farmers help unload Kalamazoo ranges.

boxcar, loaded stoves and delivered them to Fiesler's farm warehouse.

There all of the stoves but one were unloaded from each truck. Then each farmer drove home with his new stove. Later, company representatives will visit each farm to install the new stoves.

The appointment of Paul H. Dow as sales promotion manager of Bryant Heater Co., Cleveland, is announced by James N. Crawford, vice president in charge of sales.

Mr. Dow will work with the expanded Bryant distribution organization in merchandising the company's line of gas-fired heating equipment.

He comes to Cleveland from Dayton, where he has been associated



PAUL H. DOW

with the Airtempt division of Chrysler Corp., in charge of public relations and dealer relationships, and had previously been with the General Electric Co.

John A. Robertshaw, president of the Robertshaw Thermostat Co., Youngwood, Pa., has announced that the Robertshaw Co.'s subsidiaries with separate corporate structures—the American Thermometer Co., of St. Louis, Mo., the Grayson Heat Control Co., Ltd., of Lynwood, Calif., and the Paragon Manufacturing Co., of Scottsdale, Pa., have merged with the parent company.

Hereafter American Thermometer Co. will be known as American Thermometer Division, Robertshaw Thermostat Co.; Grayson Heat Control, Ltd., as Grayson Controls Division, Robertshaw Thermostat Co. The Paragon Manufacturing Co. has been completely absorbed.

Mr. Robertshaw stated that the company's new simplified corporate structure permits a complete interchange of processes, engineering, models and idea.

# The bigger they are . . .



## the harder they fall!

Easy business and plenty of it is not conducive to good salesmanship nor to straight thinking, any more than a big meal improves the appetite and sharpens the wit.

A dozen or two fat orders via the transom and some short sighted companies put the brakes on selling and advertising efforts . . . stalling the "engine" which then gets temperamental when it is needed.

"Why advertise?" they ask. "We'll never fill the orders we've got."

And they're right! . . . about not filling the orders, we mean.

They'll never fill those orders because they'll never get the chance to . . . a good part of the "orders" they're behind on today aren't orders at all . . . they are "factors of safety," placed by people who want to make sure that they'll get what they want. Instead of ordering one refrigerator or one lathe, they order four, five or six of them. Delivery of one of these cancels the other orders. Ten orders shrink to two,

and by the time every manufacturer involved in filling these orders cancels his own "safety margin" of orders, those eight cancellations have multiplied themselves by ten . . . and the bigger they are, the harder they fall. If you want an idea of how this works, ask your purchasing agent how many orders he places to insure delivery of the one needed piece of equipment.

The executive who looks upon his advertising as a long-range builder of acceptance for his company's product and a creator of demand for his company's trade-mark . . . who keeps up his advertising effort . . . obviously will suffer less than he who has released his grip on his market.

Would you like to see a couple of case histories of what happened to companies that discontinued advertising because they were "oversold"? Would you like to have copies of this ad to send to others in your organization? Just drop a note to Associated Business Papers, 205 East 42nd Street, New York 17, N. Y.

### BUTANE-PROPANE *News*

A MEMBER OF THE ASSOCIATED BUSINESS PAPERS

## One Fuel Tank for Tractor and Flame Weeder

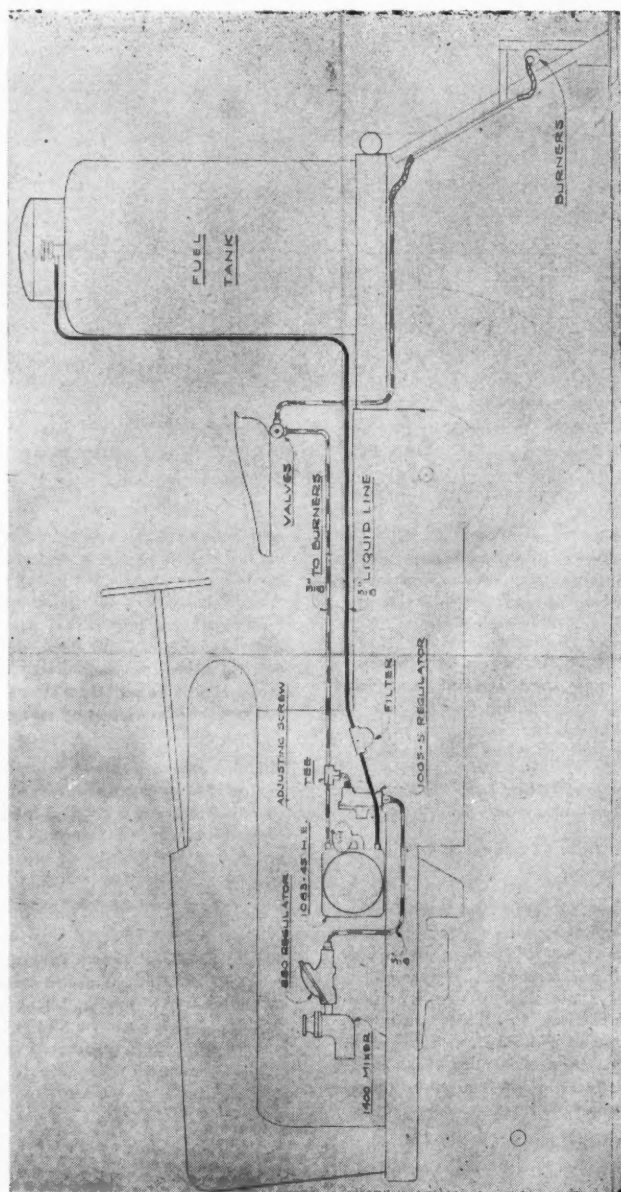


Figure 1. Heat exchanger for vaporizing LP-Gas on cultivators and tractor engines.

# POWER

## Combining LP-Gas Supply for Tractor Engine and Cultivator

By RALPH MEEDER

Salesmanager, American Liquid Gas Corp., Los Angeles

**P**RACTICALLY all of the problems of flame cultivation or weed burning that have come to the attention of our organization indicate that inadequate vaporization of the LP-Gas fuel is the cause of most of the difficulties. Also, considerable complaint has been registered by weed - burning operators because LP-Gas fuel quality has not been sufficiently standardized as such to permit proper operation of their burners. It is quite possible that improvement in fuel quality in certain localities will help, as sulphur and other impurities from some refineries cause more frequent servicing of utilization equipment.

We feel stable operation of weed-burning equipment can be realized



RALPH MEEDER

by the use of properly installed heat exchangers on the tractor engine, furnishing an adequate gas supply at the desired pressures. This also permits proper control of fuel pressure and better functioning of equipment.

It seems incredible that fuel dealers would attempt to furnish LP-Gas mixtures of such low pressure that it would be under 50 pounds during the flame cultivation season. This large summer fuel load demands the cooperation of everyone in the industry so that consumer satisfaction is more easily maintained. The simple chart (Table 1) shows the butane-propane mixtures and the pressures of each at selected temperature. It is readily observed that 90-10 butane-propane mixture should rarely be supplied to any weed burner and especially to one working in sugar cane fields. But 50-50 mixtures at temperatures slightly over 50°F. can be handled satisfactorily.

The "Algas" engineers have adapted the Model 1083-45 as a low

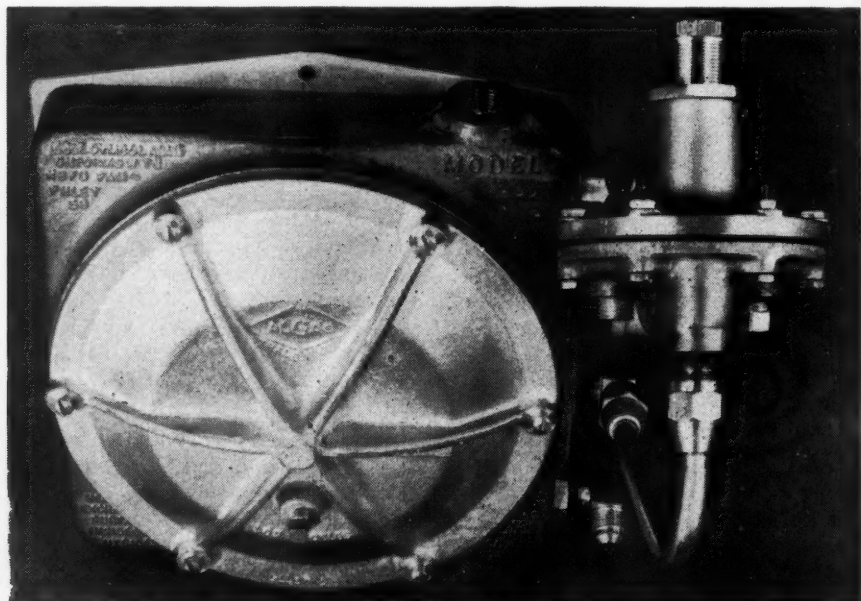
cost, high capacity heat exchanger to vaporize the butane-propane liquid fuel; the primary regulator has a special adjusting screw that permits the operator to set it for most effective operation. For example, it can be set at a pressure of 45 pounds to the burners when working in sugar cane fields, or down to 30 pounds when used in cotton fields. This can be done with high pressure in the tank or when the fuel tank pressure is only 50 pounds.

The vaporizing capacity of the Model 1083-45 is over 30 gallons per hour even under the extreme low pressure conditions. With all this extra fuel capacity, the operator can use LP-Gas to power the

tractor engine for a small additional cost to the flame cultivation equipment. Other primary regulator operating pressure adaptations on this model can be made when pressures from 3 pounds to 30 pounds are required.

Figure 1 shows the simplicity of an installation that serves a dual purpose—LP-Gas to supply the weed burners and the engine. The water from the engine circulates through the Model 1083-45 heat exchanger to vaporize the gas. Liquid fuel from the tank is connected to the heat exchanger with a filter installed to remove any scale or foreign particles from the fuel.

After the gas is vaporized the



Regulator used on combination fuel installations supplying tractor and flame weeder.



**TABLE 1. LP-GAS FUEL PRESSURES AT SELECTED TEMPERATURES (Degrees F.)**

<i>Percentage Butane-Propane</i>	30°	40°	50°	60°	70°	80°	90°
90-10	7lb	12lb	18lb	25lb	32lb	40lb	50lb
80-20	12lb	18lb	25lb	32lb	42lb	52lb	62lb
50-50	28lb	37lb	47lb	58lb	70lb	82lb	98lb
40-60	32lb	42lb	52lb	65lb	77lb	92lb	110lb
30-70	37lb	48lb	60lb	72lb	82lb	105lb	120lb

primary regulator on the heat exchanger reduces tank pressure of the fuel to a pressure at which it has been adjusted. A tee in the gas line to the burners permits connecting Model 1000-5 regulator which reduces the pressure to 5 pounds so that it can be connected to the Model 880 atmospheric regulator, which is the secondary regulator that supplies the Algas carburetor. This simple combination of equipment permits full use of LP-Gas to its best advantage and reduces operating costs to a minimum.

### Ways to Carry the Fuel

Referring to carrying fuel on the tractor, the following are two among several ways it can be done:

1. Install a large tank (about 200 gallon capacity) on the rear of the tractor, and thus a full day's operation can be handled with one filling.

2. Use the tractor fuel tank that is installed to supply the engine and refill it more frequently. This tank may be from 30 to 40 gallon capacity.

A two-row flame cultivator may use 6 to 8 gallons per hour and a

four-row about 12 to 16 gallons per hour. Most farm tractors will use from 2 to 3½ gallons per hour. Thus a small tractor with a two-row flame cultivator could use 10 gallons per hour while a four-row installation about 20 gallons per hour. Each operator can give his installation consideration based upon his type of operation.

As for a summer fuel load, the farm tractor and flame cultivator offer attractive possibilities. Just think of the following:

One farm tractor engine on LP-Gas, operating 8 hours per day, 100 days per year (in the spring, summer, fall) and using 3 gallons per hour, equals 2400 gallons.

One four-row flame cultivator, operating 8 hours per day, 50 days per year, and using 16 gallons per hour, equals 6400 gallons.

Total, 8800 gallons.

When we think of this fuel consumption as a means of building a summer fuel load, each installation certainly represents the fuel requirements of a great many domestic customers and it is therefore one of the quickest ways to balance and increase the year-round fuel output.

## New Manual Issued For Private Truck Owners

The National Council of Private Motor Truck Owners, with headquarters in Washington, D. C., has announced publication of a revised and enlarged edition of its Manual covering all ICC regulations applicable to the interstate operation of private motor trucks.

Prominently featured is a new section devoted to "ICC Regulations for Transportation of Explosives and Other Dangerous Articles," including specifications for shipping containers, with historical data, interpretation and comment.

The Manual is designed to keep private motor truck owners currently informed concerning all of their obligations and liabilities under the Interstate Commerce Act as administered by the Interstate Commerce Commission.

The Manual (105 pages, loose-leaf) has been printed and prepared for insertion in a standard 8½" x 11" 3-ring binder for desk use. It is kept up-to-date by constant revision of its pages as changes occur as the result of legislation, court decisions or modifications in the ICC regulations.

For example, a revision of the Motor Carrier Safety Regulations affecting private motor truck owners contemplated in the new ICC proceeding docketed as Ex Parte No. MC-40, with interpretative and other pertinent data, will be incorporated in the up-to-the-minute revision service.

The Manual is being offered to all private truck owners and other interested parties at a subscription price of \$7.50 per copy. This includes the complete Manual with all supplementary revisions thereto for a 1-year period.



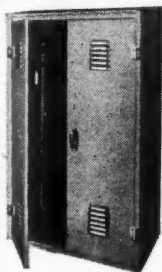
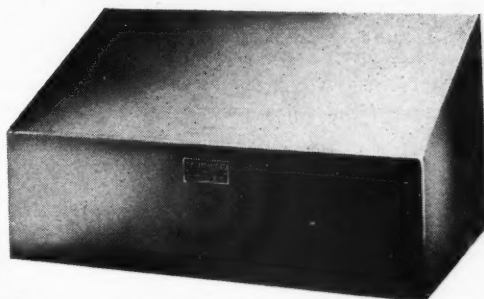
Checking the oil on a butane equipped truck engine.

# OXFORD BOTTLED GAS CABINETS

*for Long  
and Satis-  
factory  
Service*

(Right) Dual  
Hood Type

(Below) Full  
Size Cabinet



Thousands of Oxford Bottled Gas Cabinets, Full Size, Single Hood and Dual Hood Types are in use in many parts of the country, giving highly satisfactory service. Constructed of heavy metal with a protective coating of paint or galvanized to insure rust resistance, cylinders, valves, regulators, etc., are safely guarded from accidents or weather. Write for prices and details.

**OXFORD  
LIQUID  
PROPANE  
VAPORIZER**

Designed for bulk plant installations. Insures vaporized gas in any degree of cold weather. Outstanding superiority is that it is installed OUTSIDE the tank —always accessible. Write for details and prices.

**THE OXFORD COMPANY, OXFORD, PA.**



**CLIP THIS AND MAIL TODAY**

*if you are not a subscriber to*

**BUTANE-PROPANE NEWS**

1709 W. Eighth Street, Los Angeles 14, Calif.

## **SUBSCRIPTION ORDER**

Enter my subscription to BUTANE-PROPANE NEWS to begin with the next issue.

1 Year \$2.00 ☐ 3 Years \$5.00 ☐

*Check enclosed* ☐ *Please send bill* ☐

NAME \_\_\_\_\_ POSITION \_\_\_\_\_

COMPANY \_\_\_\_\_

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MARCH — 1947

155

# CLASSIFIED

Classified advertising is set in 6-point type, without border or display, at the rate of 15 cents per word per insertion: minimum charge per insertion \$3. Box numbers for replies count as 5 words. Count as a word each one letter word and each group of figures. Classified advertising is only accepted when payment accompanies order. Copy and payment must reach publisher's office prior to 10th of month preceding publication.

Free to World War 2 Veterans: Situation wanted ad for three successive months.

## HELP WANTED

**LP-GAS TECHNICIAN WITH SALES EXPERIENCE.** The man we want must know all details of LP-Gas appliances, engineering problems involved, and have a definite bent towards selling. The man chosen will head up a fast growing bottle gas outfit now operating successfully in Central Pennsylvania. If you know LP-Gas, if you can sell LP-Gas equipment, and if you can handle men, this will be an especially profitable position as we pay an excellent salary plus bonus. Write at once giving personal history and experience. An interview will be arranged. Box 330, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

## SITUATIONS WANTED

**GAS ENGINEER—EXPERIENCED IN CONSTRUCTION, operation and sales, seeks connection with progressive LP-Gas organization.** 55 years of age, best references. Box 280, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

## BUSINESS OPPORTUNITIES

**FOR SALE — ESTABLISHED LIQUEFIED Petroleum Gas Business in Texas.** Write Box 290, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

**FOR SALE—GOING BUTANE & PROPANE business.** Selling approximately 70,000 gallons of gas per month. Six service trucks in operation. Two bulk plants. Cash or terms. Write Rockgas Service Company, Box 31, Adelanto, Calif.

**FOR SALE—PROPANE BUSINESS—15,000 gallon storage.** Excellent territory in dairying and lumbering community. Bulk and bottle deliveries. \$25,000 to handle. Terms. Box 310, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

**FOR SALE—LARGEST DISTRIBUTORSHIP of Butane-Propane in the state of Texas.** Distributes over 6,000,000 gallons per year. Gross over \$250,000 per year. Equipment and property inventory over \$250,000. Contracts on hand for over 500,000 gallons per month from refineries. All trucks are less than three months old. If interested, write: Box 210, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

**FOR SALE—WELL ESTABLISHED BUTANE Propane Business, Indiana, 20,000 storage on rail siding, three trucks, semi-trailer, all necessary equipment, unlimited possibilities, no competition, stock of tanks and appliances, will bear investigation, about \$40,000.** Box 340, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

## BUSINESS OPPORTUNITIES WANTED

**ATTENTION—WANTED TO BUY: ESTABLISHED Butane-Propane business anywhere in the U. S.** Full details must accompany replies. Write Box 240, BUTANE-PROPANE News, 1709 West 8th Street, Los Angeles 14, Calif.

## EQUIPMENT WANTED

**USED PROPANE STORAGE TANK FROM 12,000 to 18,000 capacity.** Must be welded and approved. Box 320, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

**WANTED—5000 TO 8000 GALLON Propane storage tank.** Let us know price and location. Box 453, Bishop, California.

## EQUIPMENT FOR SALE

**FOR SALE—ONE 3309 GALLON BUTANE semi-transport.** One 6x6 two and one-half ton G.M.C. truck. Located in Texas. Box 300, BUTANE-PROPANE News, 1709 W. 8th St., Los Angeles 14, Calif.

**FOR SALE—1939 CHEVROLET CABOVER Butane truck 1700 gal. ASME code, 125 lb. test, Viking take-off, 1½ ton, pump and hose. Dual wheels. A-1 condition. \$2400.00.** THE FEDERAL HEATING COMPANY, 175 S. Federal, Denver, Colo. Phone RA 2811.

**FOR SALE—ONE BUTANE TRANSPORT semi-trailer twin tanks 4313 gal. water capacity, 200 lbs. Hydrostatic Test, 125 lbs. working pressure. D-40 International Tractor with K-7 motor. \$4500.00 F.O.B. TRI-COUNTY REFRIGERATION CO., 227 Poyntz, Manhattan, Kansas.**

**FOR SALE—1946 INT. KS-5 TRUCK, 1073 Delta Streamlined Tank, Smith T-2 pump, Brodie meter, Century combination carburetor. Outfit purchased new five months ago cost of \$3750.00. Price \$3100.00. Also quantity Fisher 922 & 923 regulators, new. White River Distributors, Batesville, Arkansas.**

**FOR SALE F.O.B. WOODS CROSS, UTAH**—19 truck service tanks, 175-200 lb. WP, capacity 23-46 gals. One 157 gal. portable service unit complete. 1" Neptune meter. 1" Hand Pump. 17 Ensign carburetors. 20 Ensign vaporizers. 2 Holzapfel Regulators and Mixers. All equipment used. \$1150.00. Complete specifications on request. **WASATCH OIL REFINING COMPANY**, 803 McIntyre Bldg., Salt Lake City 1, Utah.

**PROPANE TRANSPORTS FOR SALE**—ONE 1945 Peterbilt dual drive 200 HP with Fruehauf Trailer. One Sterling 200 HP with Reliance Trailer. Fully equipped, guaranteed in first class condition, now operating. Will consider selling without Propane Tanks. Inquire P. O. Box 69 or Phone 20716, Sacramento, Calif.

**FOR SALE**—INTERNATIONAL 1942 KR-11 tractor, Fruehauf 2-axle semi-trailer with 3770 net 225 lb. working pressure tank, 10:00-20 tires, excellent condition, actual mileage 70,000. For additional information write or call Mohave Butane Gas Service, Box 350, Kingman, Arizona.

**FOR SALE: STOVE ORIFICES, 1/4, 3/8 AND 1/2 Flare Nuts, and other L.P.G. fittings.** Write **FUELGAS CO.**, 5905 N. Saginaw St., Flint, Mich.

**BOTTLED GAS SUPPLIES ARE OUR BUSINESS.** We wholesale a complete line of fittings, tubing, gas cocks, tube tools, orifices, regulators, pigtails, and tee bars. Write for our Pocket Catalog 46 today. **ENGINEERING SPECIALTY CO., INC.**, 900 W. Ridge Road, Gary, Indiana.

**FOR SALE — USED BUTANE-PROPANE Cylinders, 40 lb. capacity.** For further information write **BURDETT OXYGEN COMPANY**, 3300 Lakeside Ave., Cleveland 14, Ohio.

**FOR SALE—TANKS—FITTINGS—FOR IMMEDIATE Delivery**—150 gallon Butane Tanks and Fittings, also 250 and 500 gallon Propane Tanks and Fittings. For Delivery in 30 days—750 gallon and 1000 gallon Propane Tanks and Fittings. **KENNEY TANK INSTALLATION CO.**, 2132 No. Halstead St., Chicago 14, Illinois.

**FOR SALE—WE HAVE A FEW 100 lb. ICC cylinders** over our requirements, that we would like to place with newcomers in the industry, preferably veterans, who are finding it difficult to obtain equipment. Address: Equipment Division, **INDIANA BOTTLED GAS CO.**, Peru, Indiana.

**FOR SALE**—NEW 1947 GMC TWO-TON 1250 net gallon Propane tank completely equipped, \$4250. **Placer Gas Co.**, Phone 752, Auburn, Cal.

## Green's Fuel Gas Co. Installs Branch Office in Sanford, Fla.

A branch office of Green's Fuel Gas Co., the main office of which is in Orlando, has been located in the Florida State Bank Bldg., Sanford, Fla., adjoining the main entrance, it is announced by E. Reed Whittle, company president. Business of the fuel company has increased so much during the last year that it was felt advisable to locate an office in Sanford so patrons could pay bills there more handily, said Mr. Whittle.

The company personnel in Sanford includes Miss Esther McCall and G. Walter Morgan, sales representatives, and Miss Ouida Carlton, office receptionist.

**Exclusive**  
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**Gas Equipment Co.**

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Increase your unit income by adding rental water softening tanks to your present truck route. Your overhead won't be much higher. Your final net profits will be more than satisfactory.

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Our territories are exclusive and our agents have the opportunity to represent us in the distribution of resale models when the latter are more suitable for specific customers. We are advertising our resale tanks nationally beginning Jan. 1947.

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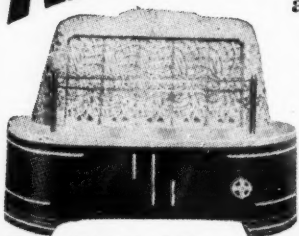
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depend  
on it...  
it's the  
finest  
of its  
kind."



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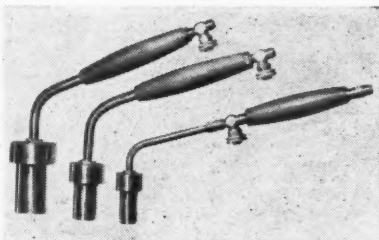


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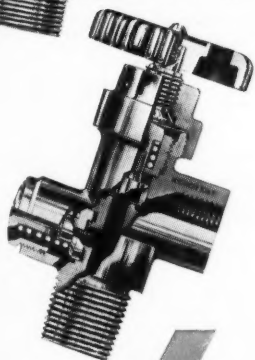
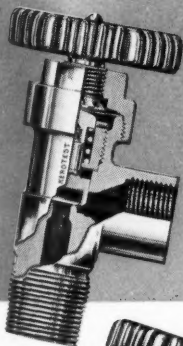
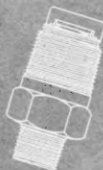
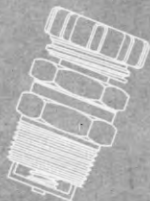
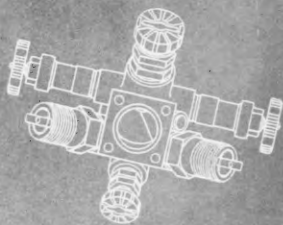
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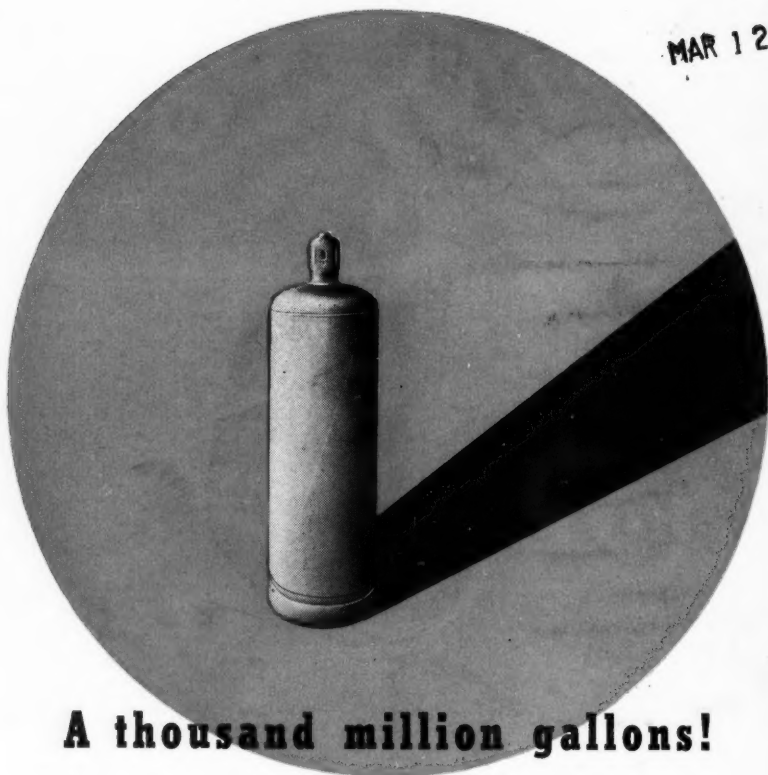
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